AUG. 29 1958

# PETROLEUM WEEK

A McGRAW-HILL PUBLICATION

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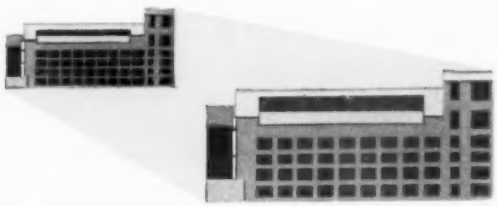

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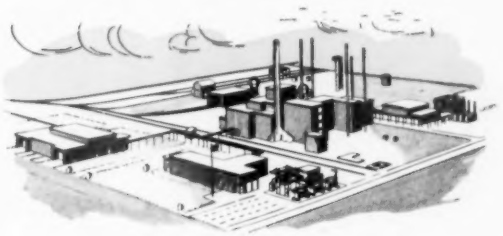

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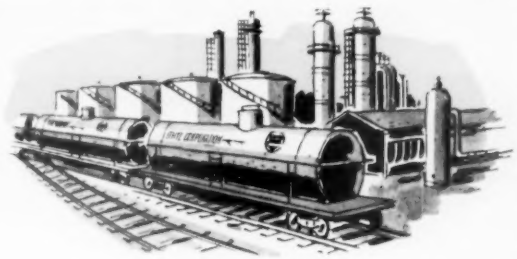

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D. W. "Slim" Beasley, of Virginia Beach, Va., wins an Atlantic Dealer Award for his rescue work during Hurricane "Flossie." Churning through flooded city streets with his high-wheeled wrecker, "Slim" hauled cars and stranded motorists to safety.

Dealer Dean Ruff, of Richmond Heights, Ohio, gave up Christmas Eve with his family to help two stranded strangers. He unselfishly saw to their welfare, even though the motorists lived too far away to be prospects for regular service.

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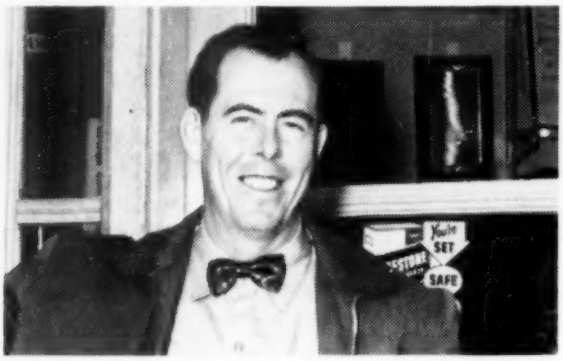


"Bob" Cole, of Atlantic City, N. J., was the 1957 Brand Names Foundation's "Retailer of the Year" award winner. His continuous support of worthy community activities has made his name synonymous with civic service in his own home town.

Assistant Chief of the Hogan-Springglen Fire Department, Atlantic Dealer E. A. "Junior" Howell is cited for his bravery in fighting a Jacksonville, Florida, fire. The raging flames threatened to destroy a new million-dollar shopping center.

ATLANTIC

**The Atlantic Refining Company**

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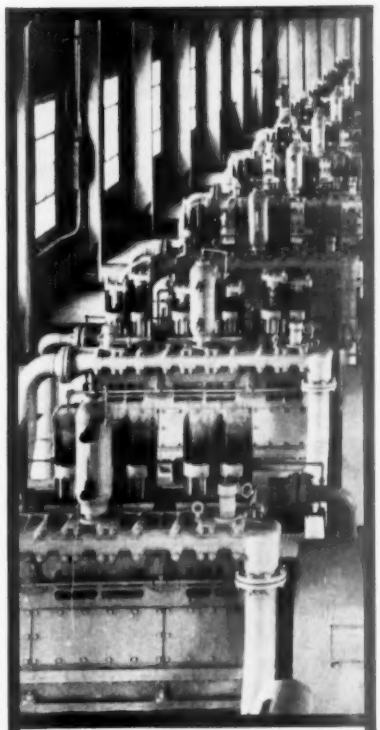

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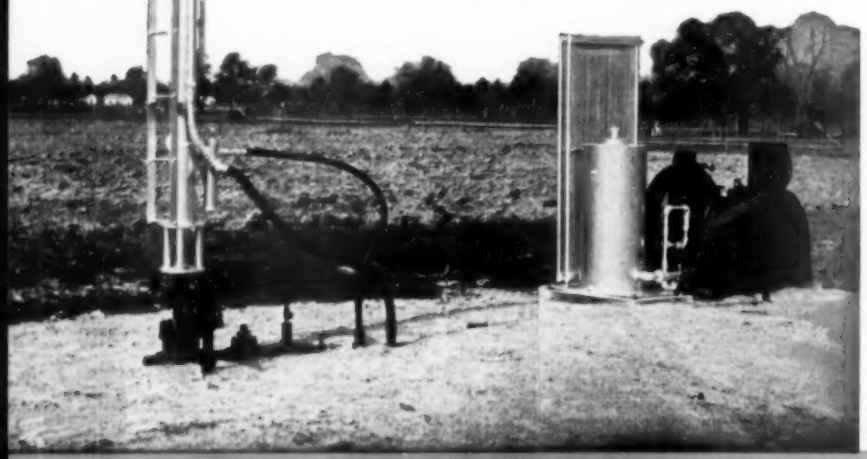

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# 60-Second Summary / WHAT'S HAPPENING IN OIL

August 29, 1958

**An overhaul of the imports plan is near.** The government soon will publish tentative proposals—which base quotas on refinery runs—and will give the industry a period in which to suggest changes before the new program is put into effect Jan. 1. All raw materials—crude and unfinished oils—will be included. . . . p. 11

•

**Inland refiners in particular are likely to be happy over the proposed imports change.** It would put them on an equal percentage footing with coastal refiners in getting low-cost Middle East crude. . . . p. 12

•

**Equipment for making fresh water from sea water is being improved.** The big aim is for more efficient units to produce the large volumes of fresh water required for offshore drilling which, for the most part, now come from onshore areas. . . . p. 20

•

**Oil still must keep an eye cocked on Washington,** even though Congress has gone home. Governmental agencies, including the Justice Dept. and the FPC, have some far-reaching oil matters before them. So do the courts. . . . p. 16

•

**Gulf Refining claims its expanded Louisiana crude terminal is the "fastest loading" point in the U.S.** It can load a 32,600-ton vessel in just over six hours. . . . p. 25

•

**Japan's Arabian Oil Co. will be seeking additional financing "probably next year."** The company expects to start drilling on its Neutral Zone concession in 1959. . . . p. 30

•

**The thermal recovery technique can be used to produce previously unrecoverable heavy oil, but costs are high.** That was found after a three-year test in California by General Petroleum. . . . p. 19

•

**Major marketers are taking a second look at general merchandising.** Although traditionally skeptical, some are finding it helps build station trade. . . . p. 36

•

**The U.S. may lag behind in the atomic tanker race.** Although some plans are afoot for such a vessel in the early 60s, several other countries are putting more push behind their efforts and are apt to have one sooner. . . . p. 13

•

**El Paso Natural Gas Products is building an enclosed natural gasoline plant in Wyoming,** a move designed to protect it from extremely low winter temperatures and driving snowstorms. . . . p. 32

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# Up to the Minute / SIGNIFICANT LATE NEWS

AT-A-GLANCE PETROLEUM WEEK Copyright

August 29, 1958

**Despite pleas for cutbacks, refinery runs last week were the highest in 11 months.** Although some refiners did make reductions, last week's throughput of 7,905,000 b/d was nearly 200,000 b/d over the previous week. Motor fuel output still exceeded 4-million b/d. The gasoline yield was 50.7%, down slightly from recent weeks. Distillate yield was unchanged at 21.7%. Total demand for gasoline hit a one-week record, averaging 4,514,000 b/d.

•

**Louisiana is holding up further leasing of state-owned lands,** hoping to get better bids later. William Helis, Jr., chairman of the Louisiana Mineral Board, said oil and gas firms weren't showing much interest in leasing right now.

•

**The talk of Canadian government aid to a cross-Canada crude line is getting warmer.** There was fresh speculation this week that the Borden Commission will recommend construction of a $375-million Alberta-to-Montreal line. Many Canadians feel, however, that this is a second-best solution to the problem of markets for western crude. What they'd rather see is more outlets to the U. S.

•

**Oil firms seeking new or increased imports quotas are going to have to wait.** With an overhaul of the controls program planned to go into effect Jan. 1 (page 11), September hearings on individual requests have been called off.

•

**Oil union members got a higher percentage wage hike last year than top oil company executives received.** A survey just completed shows that the pay of the top brass rose an average of 2.6% in 1957—while oil workers got a 6% hike.

•

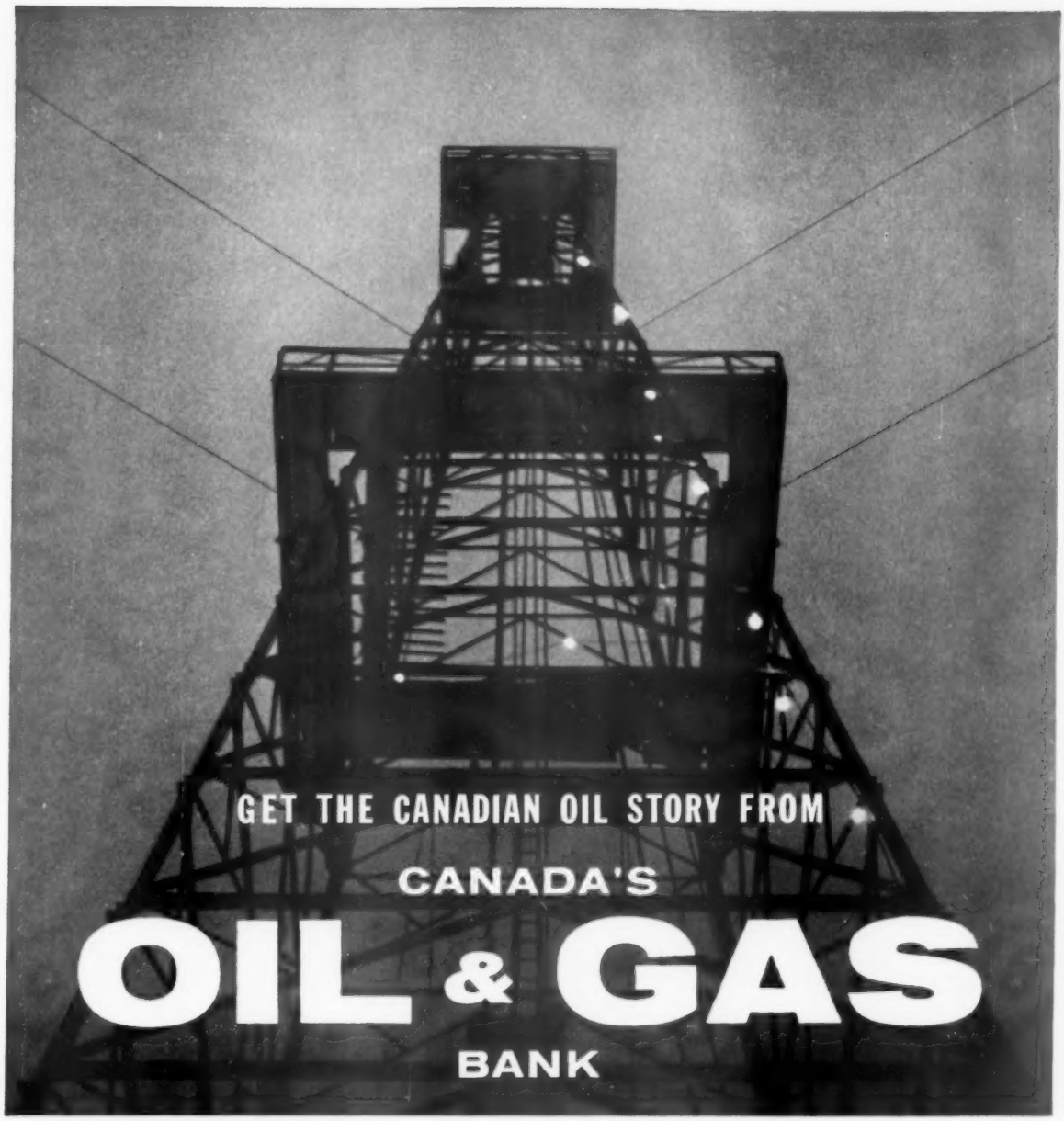
**Gulf Oil Corp. has formed a new department for buying and selling crude outside the U. S.** W. H. Blackledge, in Pittsburgh, will be manager of the Western Hemisphere operation. P. J. H. Clancy, in London, will head the Eastern Hemisphere activities.

•

**Watch for a growing move by U. S. auto makers to stress economy engines in their new lines.** This week, for instance, Pontiac said it will have a 225-horsepower economy engine in its 1959 line that will deliver about 10 more miles per gal. than its higher-powered 1958 counterpart. Also, it will run on regular fuel, which Pontiac says will mean another 10% saving in fuel costs.

•

**It's a good bet that Kerryn King will be the new chairman of the API Committee on Public Affairs.** If so, the general manager of industrial and public relations for The Texas Co. will succeed Tom Phelps, of Socony Mobil. Phelps resigned because of a change in duties at Socony.




If you are interested in Canada's expanding oil and gas industry, you will find the Royal's *Special Bulletin Service* of value. These bulletins, issued by our Oil and Gas Department, are frequently revised and contain information on all important aspects of the industry—regulations, tariffs, financing, statistics and kindred topics. For a list of current bulletins, write The Royal Bank of Canada, Oil and Gas Dept., 409 Eighth Ave. W., Calgary, Alta.

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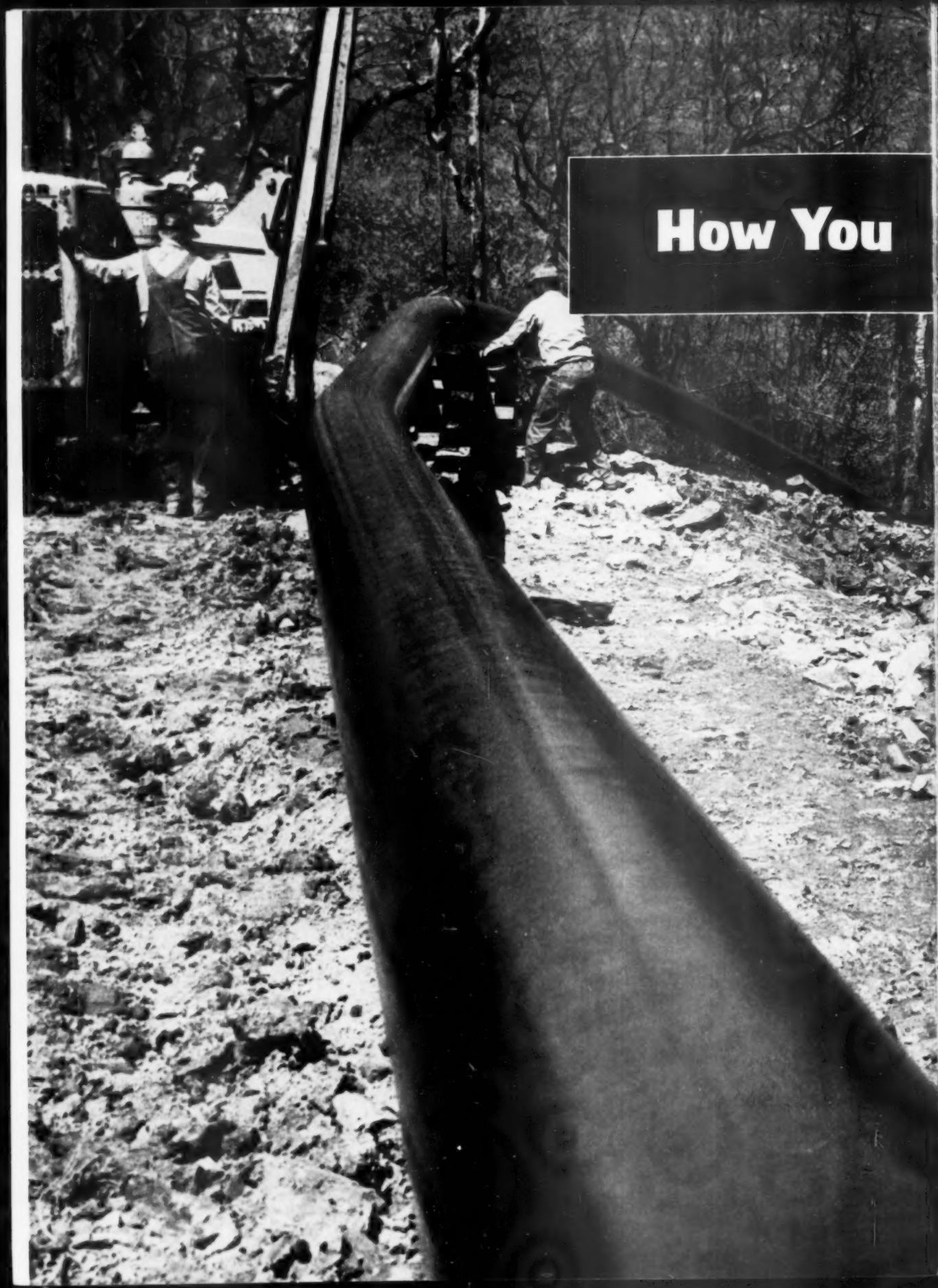
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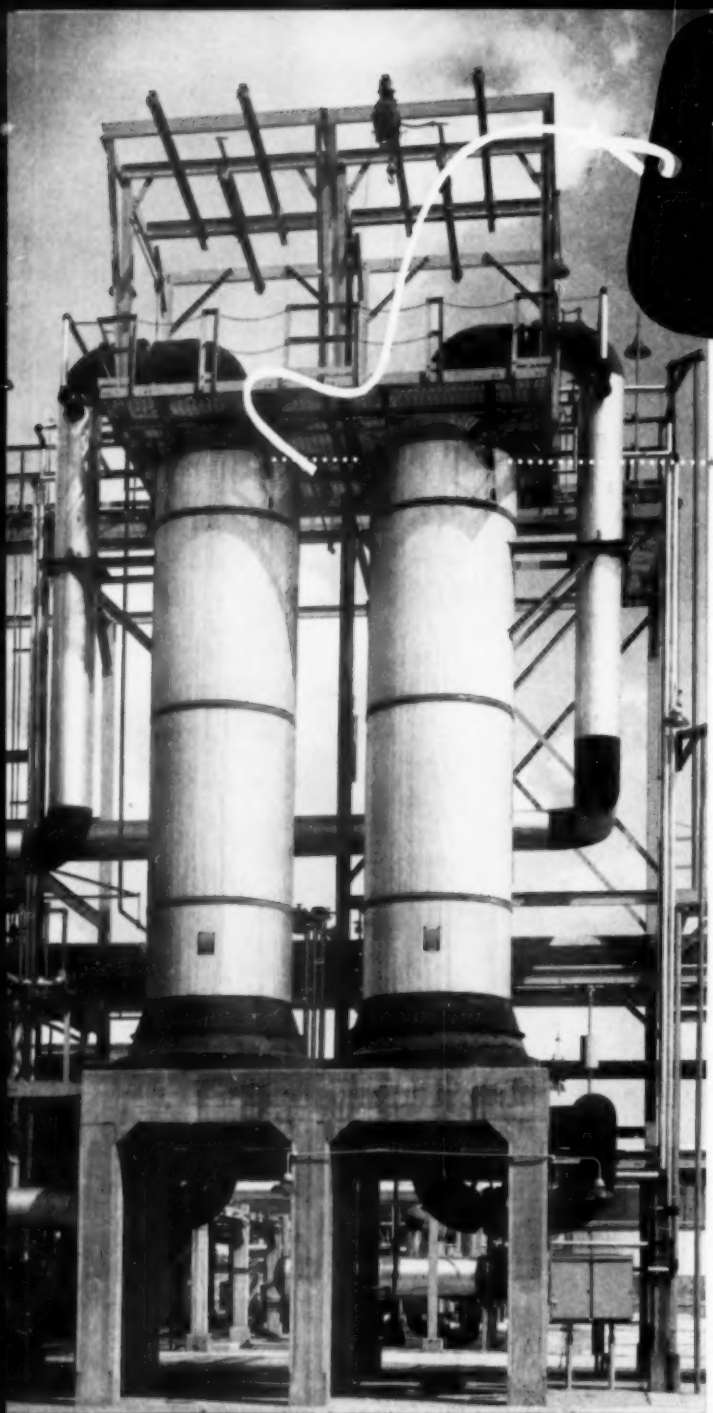

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*Tentative Washington Plan:*

# Imports Geared to Refinery Runs

**The government is ready to throw in the sponge on its current method of limiting oil imports. A new approach will be proposed soon, with the industry being given a chance to express its views.**

**A new oil imports plan—based on refinery runs—and covering unfinished products as well as crude—is expected to be announced by the Administration next month.**

For 13 months, the government has tried to control imports by giving rather arbitrary allocations to importing companies.

Using a historical base, the program gave the bulk of allocations to established importers and admitted a limited number of newcomer companies.

Now that program is apparently being ditched.

**Under the projected program, any operating U.S. refiner can get his share of imports, based on a percentage of his average throughput.**

Details are still being worked out on exactly what percentage will be used, and on what particular period of time will be made the base period.

About 250 refiners operating about 320 plants would be affected. The program will remain voluntary, but with some sanctions that could be used to put pressure on any noncompliers.

**Domestic demand, computed by the Bureau of Mines, is expected to become the guide in determining the total volume of permissible imports.** Domestic production, therefore, would no longer be the determining factor.

It is considered likely that the Bureau of Mines would review its figures periodically to determine whether adjustments—up or down—would be needed to keep imports in line with actual demand.

**The new program will be tentative when first revealed. All segments of the industry will be given a chance to comment before a final program is adopted.**

Secretary of Commerce Sinclair Weeks, chairman of the President's Cabinet committee on imports, said the new plan will be published in the Federal Register early in September. Industry reaction to the proposals will be received for 30 days, then work on the final plan will start.

**At first the new formula will be applied only to imports into Districts I-IV. But a similar plan for the West Coast is expected to be adopted later.**

The current District I-IV program is scheduled to expire Sept. 30. The District V program, however, runs through the end of the year. Present planning is to let the West Coast program run its course, then make the new plan nationwide.

**Effective date for the plan's operation east of the Rocky Mountains probably will be Jan. 1.**

Such a date would give the Administration time to publish the plan, receive industry comments, then draft a final version before the year's end. Meanwhile, the current program probably would be continued on an interim basis.

**The total amount of crude imports alone would be slightly more than the**

## Oil Man's Album

### The Crude Had a Lot of Sand in It, So . . .

**They had a simple method for getting "clean" crude from the Kern River field in Kern County, Calif., back around 1905. The crude flowed from the wells into wooden flumes, as shown above. Baffles in the trough rippled the oil, allowing the sand in it to settle. Then workmen shoveled out the sand, dumping it beneath the flumes. The average drilling time for these wells, which were between 500 ft. and 600 ft. deep, was about 45 days —using cable tools, of course.**

*(No. 18 in a Petroleum Week series)*

**713,000 b/d now approved for districts I-IV.** The increase should not be sizeable, government officials say. Guessing is about 750,000 b/d.

Unfinished oils will be admitted on the same basis as crude oil; each refiner will have one lump total for both forms of raw material.

But the proposed plan probably will set a maximum percentage of admissible unfinished products. For example, a refiner may be allowed to import 90% of his quota in crude oil, 10% in unfinished oils.

Present thinking is that imports of finished products won't exceed the desired levels because of high duties.

**There is speculation that imports of residual fuel oil may become a problem, but so far no control plans have been made.**

The National Coal Assn. has served warning that it intends to try, under the recently-amended Reciprocal Trade Agreements Act, to force controls on residual fuels. The Administration doesn't want to control residual, but may give in if the coal industry makes a good case, reliable sources say.

**The government doesn't expect any worries about "tickets"—authorizations to import.**

"There won't actually be any tickets, as such," one official said.

Rather, importers are expected to be able to take any of three courses of action with the imported oil:

- The company could, once the oil is imported in its name, sell the oil per se to another company.
- The importer could arrive at an exchange agreement with another company—a method frequently used by inland refiners.
- The imported crude could be refined by another company, in return for deliveries of products to the importer.

The government does not plan to frown on any of these agreements. But an importer will not be able to assign his rights to import to another company, under the proposed plan. The importing company must actually bring the oil into the U.S. and pay the duty before entering into any agreements.

**The proposed plan could be changed, but sentiment within the government strongly favors the new approach.**

Government policy-makers are leaving themselves room for error—or for a change of heart.

This week, a working-level government "task force"—officials representing each member of the Cabinet committee—was giving the proposed new program its final polishing. Then it goes to Matthew V. Carson, Jr., who will check it with the committee before it goes into public print. Although there is still time for changes now, most officials seem pleased with the idea of tying imports to refinery runs.

**The State and Defense Depts. are reportedly wary of the new program, however.** Officials of these agencies are said to be fearful of possible effects on established world trade patterns.

The prospective plan makes no distinction between sources of imports. This has caused some to fear that low-cost Middle East crude would dominate permissible imports—possibly to the detriment of Venezuela and Canada. If so, this would be a step away from the Western Hemisphere approach that the Defense Dept. and producer groups, have advocated.

The new plan is being checked out quietly with key members of Congress who are close to the imports controversy.

**The flood of new applicants for allocations under the current imports plan forced the government to work up the new concept.**

The Interior Dept. has been accepting applications for several months from smaller refiners who want a share of oil imports.

One count early this week placed the number of applications at about 90, with the requests totaling more than 800,000 b/d. These, if granted, would more than double the current crude authorization for Districts I-IV of 713,000 b/d.

The snowballing "historical" program convinced government officials that a new plan was necessary.

## 'Run' Basis to Aid Inland Refineries

**Inland refiners and any refiners who are expanding their capacities would stand to gain most by a switch in imports controls to a plan geared to refinery runs.**

The new plan—if adopted—would automatically make any domestic refiner eligible for an imports quota.

This contrasts with the present method under which a refiner must make an application for a quota and state his case. Companies with an import "history" fared better than the newcomers, whose allocations were more or less arbitrarily assigned.

Inland refiners have complained that they have been put at a disadvantage because they have to compete with products made from cheaper foreign crude, which could be imported more advantageously by coastal refiners.

**Some other inequities would also be eliminated.** For instance, under the plan in effect since last year, two firms side by side with approximately the same refining runs could have two entirely different import quotas.

Too, a refiner planning a new plant or an expansion of an old one would know in advance what his approximate imports quota would be.

Also, some companies have complained that they have been penalized, in effect, for reducing their imports to cooperate with government requests before the formal voluntary program was adopted. This voluntary reduction, they say, caused them to have a low base period when the quotas were established.

**The suggestion that imports quotas be geared to refinery runs is not new.** Several companies have offered such plans to the government. And PETROLEUM WEEK began advocating such an approach editorially as long ago as 1955.

## Bank Plans Oil Aid to Latin America

**Latin American oil development—including government oil company programs—may get financing from a new inter-American regional bank, now being formed.**

Although nothing is definite on the bank's organization or policies, the Latin countries will probably seek a "non-political" type of organization, Mexico's Finance Minister, Antonio Carillo Flores told PETROLEUM WEEK. This means that loans would be made where needed, regardless of whether these fields were under government or private control. Thus, loans could be made to such government oil companies as Argentina's YPF, Brazil's Petrobras, and Mexico's Pemex.

**As the situation stands now, government-controlled companies frequently have trouble in getting outside capital.** For example, the World Bank and the Export-Import Bank have followed a policy in the past of not making loans to government oil companies.

# Atomic Tanker Talked for Early '60s

**Nuclear-powered vessels will cost more to build, but will have lower fuel costs and will be faster than conventional surface tankers.**

**An American-built atomic tanker is coming all right, but not before 1961 or 1962 at the earliest.**

That's what 800 oil and shipping officials were told at last week's second annual Nuclear Power Symposium held by the Maritime Administration and the Atomic Energy Commission in Washington.

**The government now wants to have an experimental 20,000-ton submarine tanker in service in the early 1960's.**

Both the Maritime Administration and the AEC have been pushing for an atomic tanker for a long time. Maritime wanted to install atomic power in a 22,500-ton tanker it has under construction at Ingalls Shipbuilding Corp.'s Pascagoula (Miss.) yard. AEC backed the plan, but the Budget Bureau turned thumbs down (PW—May30'58,p38) and the tanker is now being completed with a conventional power plant.

But the Maritime Administration is sure to ask Congress for money for a nuclear tanker next year, and chances are getting better that the agency will get the funds.

**New tanker designs are sure to come with the advent of nuclear power plants.**

The government already has a $24,000 contract with General Dynamics Corp. to look into the design of nuclear-powered submarine tankers. And other "non-commissioned" designers are also working to develop sleek new bodies for the underwater craft.

Such design studies were under way long before the sub-polar trips of the Navy's "Nautilus" and "Skate." Since then, excitement over the potential of large commercial underwater vessels—including tankers—has been running high.

Even though a large group of tanker experts haven't been caught up in the post-polar enthusiasm (they point out that the polar route wouldn't provide a short cut from any present or foreseeable crude source to major markets), the enthusiasm can be expected to spur some increase in submarine tanker design activity.

But all design work on atomic tankers isn't being channeled toward the submarines. Naval architects at George W. Sharp, Inc., have done considerable design work on a surface atomic tanker. Douglas C. MacMillan, president of the company, told the symposium of one such design:

The vessel would break the traditional design by having the bridge and crew's living spaces well forward of midship. The bulk of oil tanks would then separate the living quarters from the reactor, which would be located in the after part of the vessel.

**Nuclear tankers are expected to feature higher construction costs, wages, and insurance—but lower fuel costs—as compared with conventional tankers.**

The atomic energy division of American-Standard presented the symposium with a three-hour study of the Economics of Nuclear and Conventional Ships."

According to the study, construction costs will run about 20% to 30% higher on atomic tankers; wages will be 7% to 10% higher; and insurance will cost as much as 60% to 100% more than on today's tankers.

But American-Standard says that fuel savings of from 40% to 50% will probably offset these higher costs. And, the company points out, atomic tankers will be able to move faster than today's tankers.

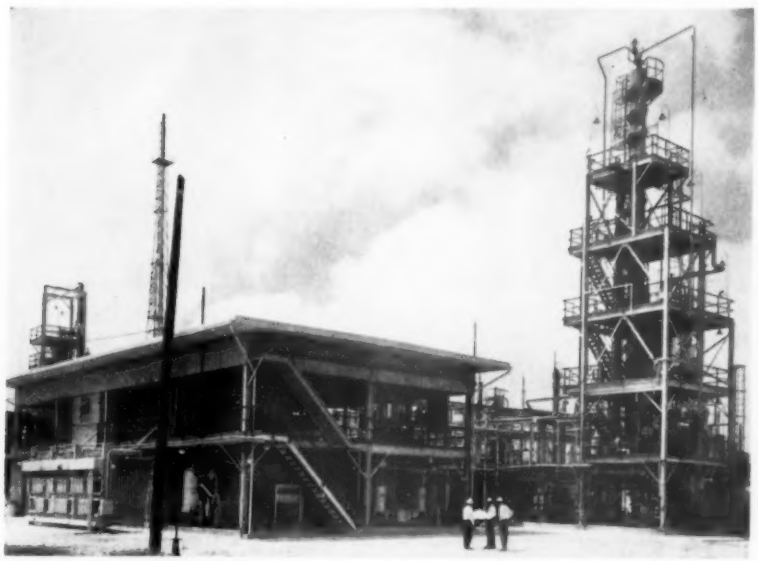
This speed advantage grows more important as the length of route increases. The atomic powered vessel will deliver its cargo and be well on its turn-around voyage by the time its conventional-tanker counterpart completes the one-way trip.

For this reason, the earliest A-tankers are expected to be used in long routes such as between the U.S. and the Middle East.

The American Standard report also predicts that maintenance and repair bills for atomic-tankers will be about the same as they are on conventional tankers.

**Boiling water reactors are now held to be the best bet for use in the earliest atomic-powered tankers.**

Representatives of General Electric Co.'s atomic power equipment department made no bones about recommending the boiling water reactors to the symposium: "The boiling water reactor has significant constant performance advantages over other re-



## Pilot Plant for Polypropylene Process

**Esso Research & Engineering Co. did a lot of research on polypropylene before it started making the plastic on a commercial basis.**

Esso Research has been working on polypropylene since 1940, spending over $5-million. It was only after a process involving a Ziegler-type catalyst was tested at a pilot plant at Baton Rouge, La., (picture) that a decision was made to build a full-scale plant at Baytown, Tex.

The plastic will be marketed by Enjay Co. (PW—Aug.22'58,p10).

actor types that are being considered for merchant ship propulsion."

Another advantage, the GE men pointed out, is that the boiling-water reactor is considerably cheaper to build than the advanced pressurized water reactor (to be used in the N.S. Savannah, the world's first atomic merchant ship, as well as in the Navy atomic subs) and the gas-cooled reactor.

**The atomic tanker will have to fit itself into a tanker market which will be undergoing considerable change for the next 30 years,** according to a report made at the symposium by a team of Standard Research Institute economists.

The Stanford group predicts that tanker requirements will double by 1966 and double again by 1977. Tanker building, now slumping, will bound upward as tonnage requirements increase between 1966 and 1980, and then level-off again between 1981 and 1985, according to the Stanford studies.

The Stanford economists looked deeper still into the crystal ball to venture that tanker building will be "heavy" between 1985 and 1990.

Other conclusions of the Stanford report were:

- Bunker "C" fuel prices will increase to an average of about $3.10 per bbl. by 1960-1965, and will level off between 1965 and 1970.
- Shipboard labor will climb an average of 4% a year between 1957 and 1970.
- Shipbuilding labor costs will jump by 47% by 1970.
- By 1965, new ship material costs will rise 29%.

**Even with all the renewed interest in and talk about atomic tankers in this country, it still seems unlikely that the U.S. will be first with such a vessel.**

Several other countries are known to be well advanced in their plans to build an atomic tanker. Two Japanese firms, for instance—with more than a little help from the Japanese government—are well beyond the initial-design stage on such a vessel.

And earlier this month, a British firm, Mitchell Engineering, Ltd., having completed hydrodynamic studies for a nuclear-powered tanker, awarded a contract for a feasibility study of such a vessel to Saunders Roe, Ltd. Saunders Roe expects to have the study finished in eight months.

And at mid-month, Gotaverken Shipbuilding Yard at Goteborg, Sweden, announced that it had completed plans for a 65,000-ton A-tanker.

Other nations, such as France, West Germany, Italy, and the Soviet Union, are also hot on the A-tanker trail.

# Tax Revisions Aid Oil Producers

**Oil and gas producers got two technical, but useful, tax boons from the now-departed 85th Congress.** One change was written into law and the other was promised as an administrative practice.

Combined, they should help to make the application of the percentage depletion provisions of tax law more workable to the benefit of the taxpayer, according to Washington tax experts.

**Of primary importance to oil and gas producers is a provision to permit a taxpayer to treat his deposits in an oil and gas operating unit either under the provisions of the 1939 tax law or of the 1954 Internal Revenue code.**

For tax purposes, he may now combine any parts—or all—of the deposits in a tract, as the 1939 law permitted, or aggregate deposits in an operating unit—as allowed under the 1954 code—but this requires that all deposits in the unit excluded from the aggregation be treated as separate properties for computing depletion.

**The industry also now has informal administrative promises that the Treasury Dept. will generally allow the individual taxpayer to decide what constitutes an operating unit.**

Russell B. Brown, general counsel of the Independent Petroleum Assn. of America, asked tax-writing members of Congress to give the oil and gas industry a precise statement of intention on this point, comparable to what they gave the mining industry. In mining, the lawmakers had specified that the taxpayer's determination of what constitutes a mine or an operating unit be accepted generally by the Treasury Dept. and by the Internal Revenue Service.

The House-Senate conference on the revision law didn't write such language into the report to apply to the oil industry. But Sen. Robert S. Kerr (D., Okla.) presented the question to the Treasury Dept.—at Brown's request. There, one of Treasury Secretary Robert B. Anderson's assistants wrote Kerr in reply that oil would get the same treatment as mining.

Ira H. Cram

Serge B. Jurenev

Howard H. Hinson

# Conoco Advances Cram, Jurenev, Hinson

**Ira H. Cram this week was named chairman of the executive committee of the board of directors of Continental Oil Co.**

Cram, a senior vice-president since 1953 and a director since 1952, succeeds E. F. Battson, who has resigned from the board and as a vice-president of Continental. He will continue, however, as president of Constock Liquid Methane Corp. and as a director of Continental Carbon Co., Continental Oil affiliates.

**Two other changes were made on Continental's board with the election of Serge B. Jurenev and Howard H. Hinson as directors of the company.**

The two new members replace Battson and James J. Cosgrove, the latter who has been associated with the company since 1929 and chairman of the board since 1946. A new chairman has not been named yet.

Jurenev, assistant to the president and chief economist, has been with Continental since 1942. He has served on numerous industry and government committees.

Hinson, vice-president and general manager of Conoco's foreign department, joined the company in 1948 and has been associated with exploration and producing operations.

# What's New / IN THE INDUSTRY

**Oil's small businessmen got help—although possibly small help—from Congress before it adjourned last week.** The tax bill passed last week provides small business with an allowance for faster depreciation write-offs of new machinery and equipment; allows a loss to be carried back three years instead of two when application is made for a retroactive tax refund; and permits estate taxes to be paid over 10 years.

Also, a late-session bill makes available a $250-million revolving fund for financing small business capital expenditures. The Small Business Administration says that it can't estimate yet what benefit this will be to oil men.

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**Refiners are taking further steps to take care of a major industry problem: product inventory imbalance.** Warnings from industry leaders that gasoline stocks are too high and distillate stocks too low (PW—Aug.15'58,p15) got some results last week when D-X Sunray Oil Co. and Anderson-Prichard Oil Corp. announced cuts in crude runs of about 10%. Later, Phillips Petroleum Co. said it would not only cut its runs by 13,000 b/d, but also cut gasoline yield by 3%-4% and raise distillate yields by the same amount.

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**Alaska may be on the brink of a production boom.** Michael T. Halbouty, Houston independent, said last week that "one more important discovery in Alaska will probably open the biggest boom of modern petroleum history."

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**Louisiana and Kansas have raised their allowables.** As expected (PW—Aug.22'58,p6) the Louisiana Conservation Commission last week voted to increase the state's allowable. The commission raised the September allowable to 838,407 b/d, up 28,735 b/d from August. District allowables shape up like this: North, 121,382; South, 717,025; Offshore, 165,997.

The Kansas September allowable was set at 333,000 b/d, up only 3,000 b/d over August.

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**Don't look for replacement of the diesel engine as the leading power plant for commercial vehicles.** Dr. Peter Kyropoulos, head of technical development on General Motors Corp.'s styling staff, said recently that the diesel "will be supplanted by a new engine only if it occupies less space, weighs less, and is more economical to operate." He called the gas turbine an engine that is "coming up fast as a second choice" for commercial vehicles.

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**Texas natural gas will "invade" another state when it begins serving Delaware industrial customers this fall.** Eastern Shore Natural Gas Co. now expects to have its 124-mi. small-diameter Delaware line in service by Nov. 1. The line, which runs down the center of the state, will eventually bring 25-million cu. ft. of gas daily to Delaware users as far south as Salisbury. It will be supplied by Transcontinental Gas Pipe Line Corp.'s mainline.

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**A new exploration-production company, Tioga Petroleum Corp., has been formed.** John M. King, president of the new firm, said last week that Tioga will produce and explore throughout the U.S. and Canada. Tioga's initial investment: 33 Hughes County (Okla.) gas wells.

# INSIDE *Slant*

SOME CAN, SOME CAN'T

All geologists are not oil finders.

On the surface, that may appear to be a brash statement, but not in the opinion of Merrill W. Haas, vice-president of Carter Oil Co., Tulsa, Okla.

He made this clear in a recent speech, when he said, "Even though many in the profession are mature, experienced, and recognized as geologists, all geologists are not oil finders."

He estimated that the ratio of oil finders to geologists is about one in twenty.

But Haas was quick to point out that the industry needs both types, before stating, "It is the oil finder who keeps his company alive. His ability is unique in that, within limits, he pinpoints areas of accumulation. He is regarded as having the magic touch. To become an oil finder, one must develop the ability to apply his experience in all new situations. The non-oil-finders seldom find the forest because of the trees."

Haas also has coined a brand new word for the industry—"explorationist"—which means individual geologists and geophysicists. He considers it a most appropriate word and one which deserves common usage.

LeRoy Menzing
EDITOR

# Looking Ahead in Washington

McGraw-Hill
Washington
Bureau

August 29, 1958

**With Congress gone, Washington emphasis now shifts to government agencies and the courts.** Oil imports will continue to be the main issue. Watch for the new imports plan the government will announce next month (see page 11). But there will be upcoming action in other important areas, too:

**The U.S. Supreme Court returns for its regular session in October, with some important oil and gas cases pending.** Foremost is the offshore oil dispute between the federal government and Gulf Coast states. The high court will hear these arguments Oct. 13. Then will come the "Memphis" case, in which the court will decide whether natural gas pipeline customers need to approve rate increases sought by the pipeline companies.

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**The Justice Dept. will continue to be active.** Currently, government antitrusters are working on one of the largest batches of cases ever pending against a single industry—petroleum. Trials may get under way this fall in the Alexandria pricing case, the suit against West Coast major companies, and the "Cartel" case. The big Mid-West gas pipeline case appears stalled by preliminary maneuvering, and an Indiana service station marketing probe is being started all over again. And there are signs the Justice Dept. may soon be ready—in the months ahead—to spring another oil industry indictment. The government's investigation of joint pipeline ownership is reportedly winding up, and there may be action on this front.

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**The Federal Power Commission gets back to work next week.** After the annual August layoff, you may expect FPC to start grinding out decicions soon. Field prices of gas will continue to be the big controversy here. And the anticipated "Memphis" decision will decide FPC's pipeline rate policy.

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**The government hopes the squabble over the National Petroleum Council is finished.** Secretary of Interior Fred Seaton has clarified the new rules of procedure under which NPC must operate, and now the council must decide whether it will cooperate. Seaton says the industry chairman of NPC ordinarily will preside at meetings, but that the government co-chairman may take the gavel when he believes it necessary. Both officers should have equal authority, Seaton says. The council's agenda committee may still screen the items for action, but changes must be approved by the co-chairmen.

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**The Interior and Justice Depts. will be insistent about the new NPC rules.** There's little chance that council members could persuade the government to switch its position on any of the changes, especially the naming of a government co-chairman.

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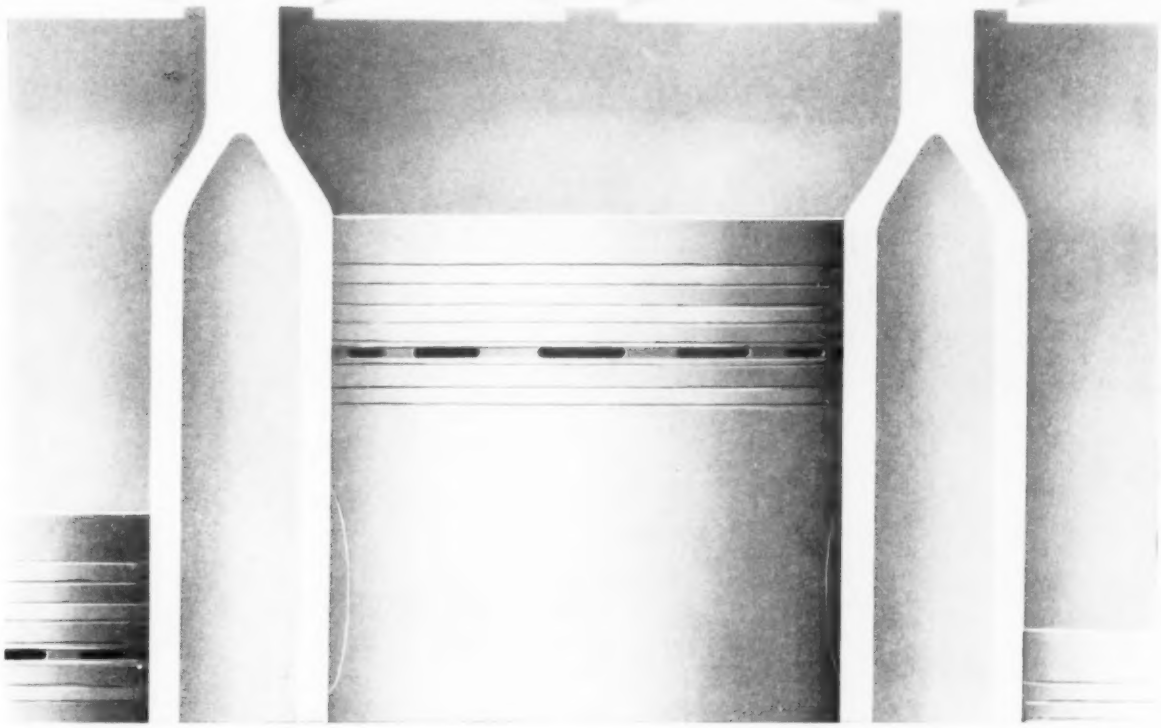
**Congress' investigation of influence on government agencies will continue** during the fall, even though Congress will be out of session. The House probers have not yet hit at any areas of oil and gas interest, but Federal Power Commission activities still may get an airing.

# CLEAN



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# California Fireflood Works, But . . .

**General Petroleum Corp. has just released results of a three-year thermal recovery experiment in California's South Belridge field. The conclusion: Fireflooding works, but the cost is high.**

The $1-million experiment shows that previously unrecoverable heavy crude can be recovered by passing a combustion front through the oil zone. But the method is so expensive that experimenters still don't know whether this recovery method is commercial.

**The over-all cost of the experiment was several times the value of the oil produced. However, the cost was considerably higher than might be expected in a possible commercial application of the process.**

Higher costs included the drilling of four observation wells and three core holes, and many measurements made in the interests of research.

Also, the test pattern area was only half the normal 5-acre well spacing in the field. The 2½-acre pattern included four equally spaced production wells surrounding one centrally located injection well.

South Belridge was chosen because its oil sands are similar to many heavy oil sands that typically have low primary recovery and leave a large amount of oil in place. Such fields usually are not suited to common secondary recovery methods such as waterflooding.

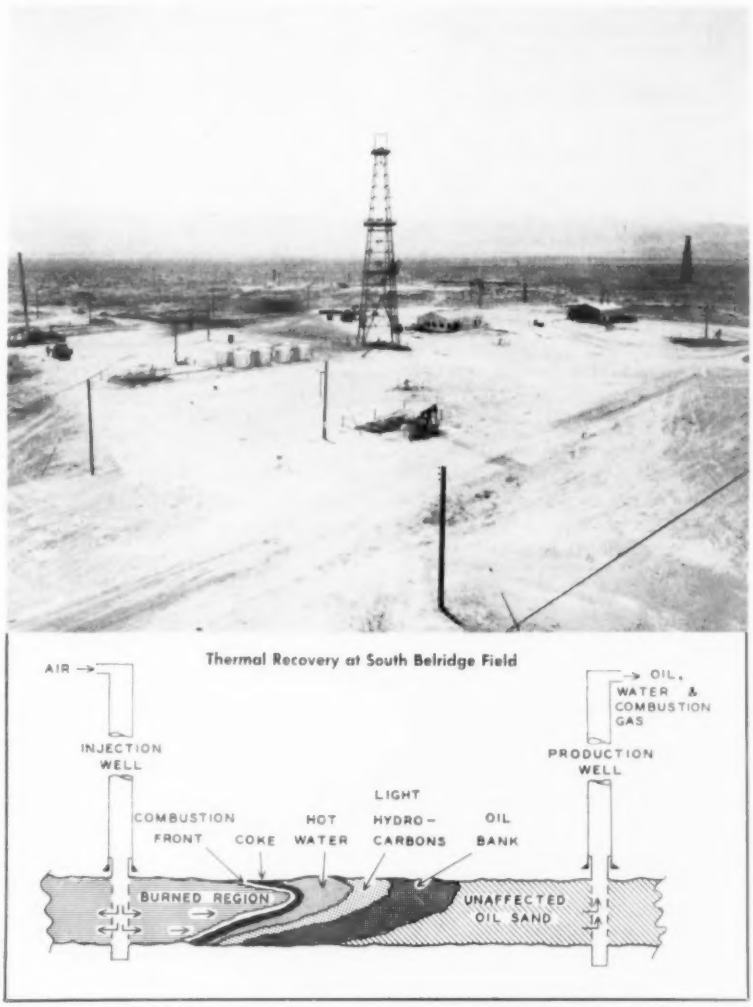
**One result of the experiment: Oil production from four wells reached a level some 15 times their total rate before injection, at least for a while** (PW—Jul.27'56,p14).

Within the 1½ years after ignition, about 50% of the oil initially in place was produced. With normal methods, a recovery of 10% to 15% of oil in place could be expected in the 40- to 60-year life of the field.

**Production rates were erratic, however, due to operational problems that had to be ironed out.**

The high rates of burnt gases and corrosive conditions in hot producing wells created extremely severe bottomhole well maintenance problems, and led to serious bottomhole failures. Such failures were limited to the immediate area of the project.

Detailed planning and drilling of wells was followed by pumping of the wells from Oct., 1955, through Feb., 1956. Air injection was started Mar. 1, 1956, and continued, with only brief interruptions, to the end of the experiment. The total oil flow was 20 b/d before ignition.




**THERMAL RECOVERY project in California includes an injection well, production wells, and a tank battery (picture). Cross-section shows how the fireflood works.**

Air was injected at a temperature of 100F. Despite this low injection temperature, heat generated by slow oxidation of oil in the reservoir gradually raised the reservoir temperature. Oil ignited spontaneously at the injection well on June 15, 1956. Ignition equipment was never used.

Although air injection had little direct effect on oil production, oil rates began to increase rapidly about two weeks after ignition. Frequent well stimulation work was necessary to maintain production. As the combustion front approached production wells, water production increased, and water and oil emulsions became a serious problem. The combustion front reached two of the producers about three months after ignition.

To continue production, it was necessary to drill replacement wells. Stainless steel liners were installed in these wells to combat the corrosive conditions. Because of well failures, recompletion work, and well stimulation, oil rates varied from 20 b/d, when two wells failed, to 300 b/d, when replacement wells were completed.

Eleven other companies contributed to the experiment. The method used was based on laboratory and field work by Magnolia Petroleum Co.

# Coming Offshore: More Fresh Water

**Improved equipment and new processes to produce fresh water from sea water for offshore oil operations loom as a distinct possibility within the near future.**

In a PETROLEUM WEEK survey completed this week, several manufacturers report they have new designs under development that they believe will have definite offshore application.

At the same time, most of the offshore operators and contractors surveyed indicate they would be interested in such improvements.

The survey also determines that most operators and independent drilling contractors use such equipment to "make" fresh water for ship's-use purposes—drinking, cooking and bathing—but continue to haul or pipe fresh water to location for drilling.

**The problem of fresh-water production isn't a pressing one right now because of the current offshore slack. But manufacturers are pushing ahead with developments to be ready for the expected upturn.**

One manufacturer says: "The farther out from shore the operators drill, the greater will be the need for distillation units to produce water for men and drilling mud at the source."

Another says: "We feel that there is going to be a gradual return to major activity in the Gulf of Mexico, but it might be a year or two before equipment manufacturers such as ourselves begin to feel the effect of it."

**The units used by the oil industry offshore fall, generally, into two categories: (1) vapor compression, and (2) flash evaporation.**

In general, the vapor compression system works this way:

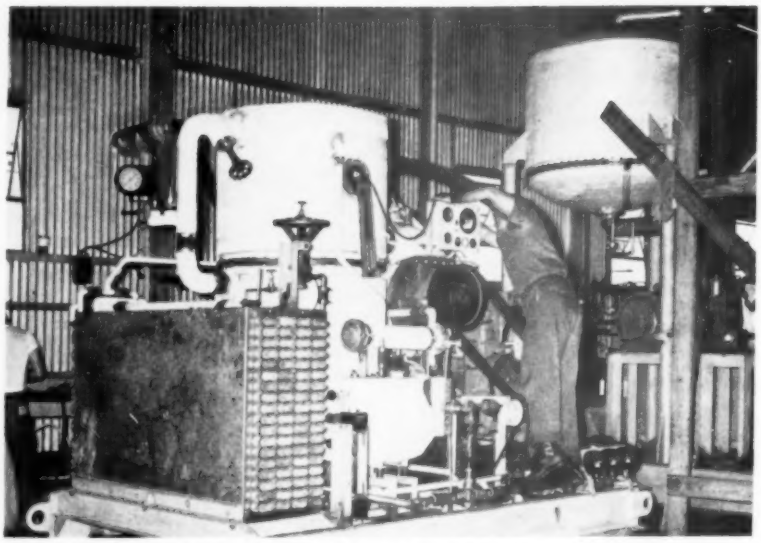
Sea water is boiled in the unit, with the resulting steam being compressed, then condensed to provide distilled fresh water.

A flash evaporator system works generally like this:

Hot water from the cooling systems of existing power sources is routed through heat exchangers. The cooling system water gives up its heat to incoming sea water.

As this sea water flows into a vacuum chamber, part of it "flashes" into steam as a result of encountering lower pressure. This steam is condensed into distilled fresh water.

There may be several of these vacuum chambers, with sea water "flashed" into steam, then condensed into distilled fresh water, at each chamber (PW—Feb.21'58,p28).



VAPOR COMPRESSION UNIT, capable of producing 300 gal. of fresh water per hour, undergoes final tests at Mechanical Equipment Co.'s New Orleans plant.

**Operators and contractors say they need from 500 gal. to as much as 2,000 gal. per day of fresh water for ship's-use purposes on the average offshore drilling unit.**

They need from 42,000 to 84,000 gal. per day (1,000 to 2,000 b/d) of drilling water. Volume depends on the stage of drilling. Assuming the lesser figures, the average rig needs a total supply of something over 42,500 gal. per day of fresh water (more than 1,000 b/d) as a bare minimum to supply all of its requirements.

**There is a wide selection of rated unit capacities in the fresh-water equipment.** The most popular sizes offshore appear to be the 300, 400, and 600 gal.-per-hour units.

**Manufacturers—realizing that space offshore is a critical problem—have attempted to make units compact.**

Mechanical Equipment Co. (MECO) explains: "Generally speaking, output is 100 to 150 gal. per day per sq. ft. of space occupied. In other words, a (MECO) 600 gal.-per-hour unit produces 14,400 gal. per day, and occupies 95 sq. ft., which is about 150 gal. per day per sq. ft. This is the entire space required for the whole unit and not just the space for the evaporator."

Maxim Silencer Co.'s 4,000 gal.-per-day single effect model is 4⅓ ft. by 4½ ft. by 7¼ ft.

Cleaver-Brooks Co.'s 1-stage, 1,000 gal.-per-day flash type evaporator is 5⅓ ft. by 4½ ft. by 9⅓ ft.

Griscom-Russell Co.'s 385 gal.-per-hour single-effect submerged tube type unit measures 5½ ft. by 8⅔ ft. by 7⅓ ft.

**Although both the vapor compression and flash evaporator units are in offshore service, the vapor compression type is the more numerous.**

The first to be put into off-shore service, the vapor compression units are made by several manufacturers.

Here is the way one large operator, who uses both types, evaluates the advantages of each:

Vapor compression—lower initial cost; less space required; simple control system; no outside heat source needed; readily available parts.

Flash operator—automatic operation, requiring less attention; fewer moving parts, requiring less maintenance; less cleaning, because of lower operating temperatures; low-cost heat supply.

**Generally, operators are satisfied with the performance of the "water-making" equipment—at least for the limited application.**

Some operators and contractors believe the maintenance of some of the equipment is too time- and labor-consuming.

But typical comments of distillation-unit users show that the units have established a firm place in offshore operations.

**Contractors are less inclined to invest in distillation units than are the operators.**

To one operator's claim that "it

certainly is a point if the contractor has a distillation unit," a contractor replies: "It appears that no premium is allowed by operators to a contractor whose rig is equipped with such a unit, and the expense of furnishing, operating, and maintaining a large unit can result in material expense."

This isn't the sole criterion, of course. As one manufacturing official notes: "Of at least equal weight is the idea of making water at the site and not becoming dependent on wind, weather, and waves as to whether you will have water. You don't have to shut down many times before you've made up the cost of a distilling unit."

**While generally satisfied with the units they are using, operators have found that performance sometimes falls short of rated capacities. This, however, isn't always the manufacturer's fault.**

Frequently, the rated capacity is based on certain operating conditions that do not always prevail in offshore oil work.

Units powering vapor compression units may not be run at optimum speeds. Controls may not be set properly. The operator may have failed to heed manufacturers' advice in selecting the right size unit. In the case of flash evaporators, there sometimes isn't enough "waste heat" available for the type and size unit.

Operators concede that if operating conditions are right, the units usually attain their rated capacities.

**It's difficult to pin down the cost of actually producing fresh water offshore. Various experts use different methods of calculation.**

This is one of the most controversial aspects of the picture.

It is compounded by the fact that most operators haven't kept or compiled sufficiently exhaustive records; or by the fact that, in some instances, labor costs, insurance, etc., are included in some compilations and not in others.

**The manufacturers, however, publish their own cost estimates.**

Griscom-Russell says that "if the unit is operated from waste heat of diesel engine jackets, or jackets plus exhaust gas heat," total costs per bbl. would be 2¼¢ for electricity, supervision, and maintenance, but without amortization. With amortization, the added charge per bbl. at 4% and 20 years would be about 3¢. Thus the total would be 5¼¢ per bbl. of water. If the capital write-off period is less, the charge per bbl. is greater.

MECO estimates operating costs at roughly $1.60 per thousand gal. of water produced. It estimates average daily cost for a thermocompression unit at $15.48, and $13.14 for a flash type unit, with the thermocompression unit producing about 9,600 gal. of water per day, and the flash type about 5,000 gal. per day—making operating cost per 1,000 gal. of water produced $1.61 for the thermocompression unit, and $2.63 for the flash type.

Maxim points out that the cost will vary widely with the size of the plant involved. For a smaller plant, costs would run about like this: For a 30,000 gal. per day unit—4¢ per bbl., without amortization; 7¢ per bbl. with amortization.

For 1,000 gal. water units, Cleaver-Brooks estimates daily operational costs at $10.28 for a waste heat unit, and $51.38 for a vapor compression system. On a per bbl. basis, operating costs are estimated at 1½¢ for the waste heat unit, and 7½¢ for the vapor compression units.

A company representative says his company could assure a price of $1.20 per 1,000 gal. for an offshore unit—provided the unit was dovetailed into the engineering of the rig itself.

**Some offshore operators have tabulated their own cost estimates. They range from a high of 40.5¢ per bbl. of fresh water produced, to a low of 7.1¢ per bbl., depending upon various factors.**

One large operator reports: "The records indicate that it costs us about 25¢ per bbl. to produce fresh water with the (vapor compression type) unit."

This compares, adds the report, with a cost of about 30¢ per bbl. to barge out potable water.

**Manufacturers—preparing for an expected renewal of offshore orders—are reluctant to discuss new types of equipment which they are developing.**

Maxim operates a marine laboratory at Millstone Point, Waterford, Conn., devoted to "tests and experiments on full-size equipment, using natural full density sea water.

Says the company:

"We presently have under development a new type of evaporator designed specifically for drilling rigs and similar operations."

MECO says: "We have under test operation a distilling unit that shows considerable promise," to which has been devoted "sizable sums and a great number of design and engineering man-hours."

From Cleaver-Brooks comes word that the company is "contemplating" a new product with features that would "extend demand to existing rigs now using other types."

A spokesman adds that the unit is


**Our Customer Saved $2407 per Mile of Pipe on this Trainload of Tex-Tube Lightwall High-Tensile Pipe**

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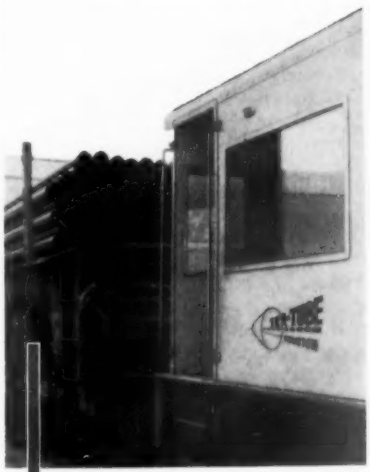

*Tex-Tube switching engine shown pulling a trainload of 6⅝" O.D. Lightwall High Tensile Pipe at the Houston Plant.*

*Sales Offices in Midland, Texas*
*Tulsa, Oklahoma*
*Baton Rouge, Louisiana*

**TEX-TUBE, INC.**

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being built and "is practically ready for testing."

Griscom-Russell says it has just completed a development contract for the Interior Dept.'s Office of Saline Water.

Badger Manufacturing Co. has just engineered and fabricated a lightweight, gasoline-driven vapor compression type distillation unit for the U.S. Army. The unit, of aluminum construction, "would have widespread use wherever high-purity water is required," says Badger.

**It's no secret, however, that several new methods—including use of nuclear power—for separating salt from water are actively under experimentation.**

The approaches are numerous—freezing salt water; using solar energy; using solvents and chemical precipitation; electro-osmosis, and electrofiltration, among others.

Fluor Corp., of Whittier, Calif., is studying the combination of a nuclear reactor with distillation of saline water, under a contract from the Office of Saline Water.

**One of the more unusual processes under research is termed "electrodialysis."**

Unlike distillation, which removes water from salt, electrodialysis removes salt from water.

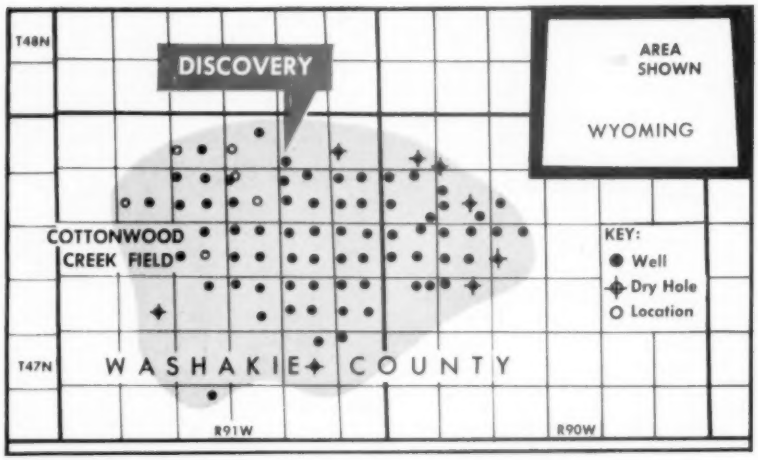
When salt is dissolved in water, its molecules split into electrically-charged negative and positive ions. When electrodes are placed in a solution, the negative ions are attracted toward the positively-charged electrodes, and the positive ions are attracted toward negatively-charged electrodes.

The saline water is fed into compartments divided by special plastic membranes able to pass ions, but not water. As the ions migrate toward one or the other electrode, the ions become concentrated in alternate compartments, while the water between those compartments becomes fresh, and is withdrawn. The greater the salinity of the water, the more electric current is required.

The process, however, appears better suited for conversion of brackish water than sea water. Several companies, some in cooperation with the Office of Saline Water, are working on the process.

**Another possibility is the use of chemicals to separate the salt from water.**

Texas A. & M. College is engaged in such a project, using hexadecanol. This chemical apparently combines with the purer part of the water, and the salty brine separates to another level.




# Early Repressuring in Wyoming

**A pressure maintenance program is now in operation at Wyoming's Cottonwood Creek field—the first field in the state to be repressurized while still in the process of development.**

Gas injection facilities, designed to increase substantially the ultimate recovery of oil from the field, were completed in June, and dedicated this month. Pan American Petroleum Corp. is operator. The field is 15 mi. east of Worland, in Washakie County, in the southeastern part of the Big Horn Basin.

The field is one of the few in the country—besides being a first in Wyoming—where an injection program has been initiated before development was completed.

In addition to injection facilities, the installation includes a sulfur recovery unit.

**Gas is being injected into the Phosphoria formation, at a pressure of 2,500 psi.**

Initial reservoir pressure was 3,900 psi., and in June, 1956—three years after discovery—pressure had declined only 10 psi. Injection pressure of 2,500 psi., however, indicates that reservoir pressure now is below that level.

**Cottonwood Creek—though still not completely delineated—is regarded as one of Wyoming's best hits in the past few years. Out of 81 tests drilled to date, only 8 have been dry.**

Dry holes have put some light on the area of the field. The dry holes are at the north-northeast and south-southwest sides of the field. The other sides of the field are still open, except for some unsuccessful drilling to the west and northwest several miles from the present limits of production.

**Outpost drilling now under way is extending the field to the southeast and northwest.**

A recent encouraging sign was a Pan Am extension 2½ mi. northwest of the field proper, that flowed 634 b/d through open tubing and perforation at 8,896-935 ft.

An extension was completed by Tennessee Gas Transmission Co. 2 mi. southwest of production. No drilling has been done directly between this well and the main part of the field.

**The field also was the first in Wyoming to be developed on a 160-acre spacing pattern.**

Pan Am attributes the rapid development of the field in the past year or so to the use of this wide spacing.

The Cottonwood Creek unit, opened by Pam Am, includes more than 37,000 acres, of which 14,000 acres have been proved productive.

The discovery, No. 1 Unit, section 2-47n-91w, was completed in 1953 for 188 b/d in the Phosphoria at 7,270-94 ft.

Two dry holes followed the discovery, and it was not until September, 1955, that the first confirmation was successful, and development of the field got under way.

The next year, development began in earnest, and 26 producers were completed that year. In 1957, 24 producers were completed. One of them, L. E. Elliott No. 1 Elliott, section 26-47n-91w, pumped 447 b/d from the Phosphoria at 9,630-65 ft., to extend production 1¼ mi. from the field. So far this year, 23 producers have been completed.

Earlier this year, the field ranked second only to Elk Basin in terms of production. Oil production averages 13,490 b/d, compared to 3,362 b/d in June, 1956. So far, about 8.5-million bbl. of oil have been produced.

# What's New / IN EXPLORATION, DRILLING, PRODUCTION

## Drilling Equipment for Sale in Alaska

**The Dept. of the Navy hopes to sell some $4-million worth of oil field equipment it has stored at Point Barrow, Alaska, when the Dept. of the Interior steps up oil and gas leasing in Alaska this fall.**

The office of Naval Petroleum Reserves says there is a large variety of equipment at Point Barrow, including five rigs, one of which can drill in the 15,000-20,000 ft. range.

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## Leasing News

**Interest in the oil possibilities of Washington state seems to be on the upturn. Two major companies have leased land in the western part of the state for exploration purposes.**

Shell Oil Co. submitted the only bid received by the State Land Commission for the right to drill on Lewis & Clark State Park lands, Lewis County.

Shell offered a bonus of $2.50 per acre, in addition to the required fee of 50¢ per acre.

Standard Oil Co. of California has leased several tracts on Whidby Island, Island County. Leases cover about 110 acres on both sides of Holmes Harbor, at Greenbank, and in the Baby Island area.

**The Saskatchewan Dept. of Mineral Resources will offer 61,000 acres of unproven lands for lease Sept. 16.**

The nine tracts offered include three parcels in the southeast corner of the province, three in the south-central portion, south of Regina, two in the west-central part, and one in the southwest corner.

**The Bank of North Dakota will offer 11,660 acres for lease Sept. 16.**

The acreage, in 102 tracts, is in Bowman, Dunn, Logan, McHenry, McIntosh, Mountrail, Rolette, Slope, Stark, and Ward Counties.

**A regular sale of leases on Colorado state lands will be held Sept. 3.**

Southeastern Colorado counties are most heavily represented, but some acreage is also being offered in Logan, Morgan, and Weld Counties, in the Denver-Julesburg Basin. West of the Rockies, 6,000 acres will be offered in Routt County, and some in Grand County.

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## Properties Change Hands

**Alaska Consolidated Oil Co. has bought a 51,000-acre tract in Alaska from Havenstrite Oil Co. of Los Angeles.**

The property is on the west shore of Cook Inlet, opposite the Kenai Peninsula.

Drilling operations will be resumed on the property this fall. One test on the unit reached a depth of 9,745 ft. and found over 3,000 ft. of oil-saturated sand.

**Sunset International Petroleum Corp. has acquired additional oil production in California from American Eagle Corp.**

The purchase adds 16.7 net wells, producing 400 b/d, and 466 net acres to Sunset's holdings in the Raisin City, Helm-Lanare, and Maricopa fields.

**Cuban American Oil Co. is proposing to acquire all assets of Owanah Oil & Development Co., in exchange for 245,000 Cuban American treasury shares.**

Directors of both firms have approved the transaction.

Owanah assets consist chiefly of 100,000 acres of oil and gas leases and 47,000 net acres of overriding royalties in three Alaskan areas, plus 144,000 acres of leases and 44,000 net royalty acres in the Paradox Basin of Utah and Colorado.

**Bandini Petroleum Co. and Hamilton Dome Oil Co., Ltd., have acquired jointly the properties of W. J. Cox. The properties consist of six oil wells in California's Santa Fe Springs field.**

The six wells have a combined production of 100 b/d. Bandini will operate the wells in conjunction with its present operations in the Santa Fe Springs area.

**United Western Minerals Co. is acquiring 250,000 acres of oil and gas leases in the Rocky Mountain area from five companies.**

Land is being acquired from Zenuth Petroleum Co., Sahara Ura-

## Waterflood for Cushing Field?

**Oklahoma's famed Cushing oil field, where many leases are now being abandoned, still has many productive years ahead if proper waterflood projects are adopted, according to the U.S. Bureau of Mines.**

A detailed study of the Bartlesville and Layton formations in the field, in Creek County, shows that oil production has declined to the point where many leases are no longer profitable, according to the Bureau.

In contrast to an annual output of more than 27-million bbl. in 1915 from the Bartlesville formation, production dwindled to 770,000 bbl. in 1955.

The Layton formation, which had a peak output of 2-million bbl. in 1913, produced only 126,000 bbl. in 1955.

**The Bureau believes that an additional 45-million bbl. can be produced at Cushing through waterflooding.**

Present primary production methods will result in only 6-million bbl. additional recovery from the Bartlesville formation, according to Bureau of Mines studies, while engineered water injection may increase recovery by an additional 25.5-million bbl.

Gas injection, as currently practiced, would yield little more oil than is expected by primary methods, the Bureau believes.

In the Layton formation, present recovery practices will produce only a few hundred thousand barrels, but use of water injection may result in additional output of 20-million bbl. from this formation.

The detailed study, "History and Potentialities of the Cushing Oil Field, Creek County, Okla.," can be obtained from the Supt. of Documents, Washington 25, D. C., for $1.25 per copy.

nium Co., Vega Corp., Mount Peale Corp., and Anticline Uranium Co.

Most of the land is in the Utah portion of the Paradox Basin, with other leases in Colorado, Wyoming, and Idaho. About $2.5-million of United Western stock will be distributed to the five companies selling property.

**Oil properties in Caddo Parish, La., have been sold in a sheriff's sale to satisfy a $225,000 court judgement against the late C. R. Schuster, Shreveport oil man.**

The property, purchased for $77,500 on the sole bid of Richard A. Whittington, of Shreveport, consists of 33 producing wells, oil production, and equipment in the Caddo Pine Island field.

Other Schuster properties will be sold Sept. 24.

•

**The Texas Railroad Commission has approved several waterflood projects in North and West Texas.**

Biggest waterflood request approved was that of Cities Service Oil Co., which hopes to add about 2.3-million bbl. to total recovery in the West Chico (Upper Caddo Conglomerate) field, Wise County, North Texas.

Others approved include three waterflood projects on the Waggoner Ranch, Wilbarger County, North Texas, one in the Lazy "B" (Strawn) field, Clay County, North Texas, and one in the South Ward field, Ward County, West Texas.

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**The Colorado Oil & Gas Conservation Commission has continued an emergency regulation prohibiting gas flaring in the Bijou field, Morgan County.**

The order, issued Aug. 5, forbids flaring of gas from wells producing at gas-oil ratios of more than 20,000 to 1. There is at present no provision for beneficial use of gas from the field, so the restriction in effect shuts in those wells with high ratios. The order will remain in force until further hearings later this year.

•

**Indian Exploration Co. is operator of the newly-approved Leon Creek unit, Mesa County, Colo.**

The block contains 11,375 acres. A location has been made for a wildcat on the block, but operations have not yet started.

•

**The U.S. Geological Survey has approved Mobil Producing Co.'s 4,705-acre Carbon unit, Carbon County, Wyo.**

Mobil is drilling below 6,000 ft. at the first test on the block. The unit is 4 mi. northwest of Medicine Bow field.

•

**Producing Properties, Inc., has sold privately $1-million worth of long term promissory notes to an undisclosed investment fund.**

Company president Robert J. Bradley said the notes are due in 1969. He added that the new funds will be used to further the company's property acquisition program.

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**The fourth edition of the Tool Pusher's Manual has been published by the American Assn. of Oilwell Drilling Contractors.**

The 500-page field handbook has been revised and enlarged. It is available from the AAODC, 505 North Ervay, Dallas.

•

**The 1958 edition of the National Oil Scouts & Landmen's Assn. Year Book has been published.**

The 1,136 page book reviews oil and gas activity in 1957 in the U.S. and Canada. For the first time, a section on Alaska is included.

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## Drilling Highlights

**West Texas**—Magnolia Petroleum Co. No. 2 Brown-Bassett, Terrell County, was completed as an Ellenburger discovery, flowing 68.5-million cu. ft. of gas daily from open hole at 14,300-700 ft. The discovery is 1⅜ mi. southeast of Magnolia and Western Natural Gas Co. No. 1 Brown-Bassett, section 218, block Y, TCRR survey, completed last March in the Silurian for 75-million cu. ft. of gas daily.

**North Texas**—Katz Oil Co. No. 2-T McFaddin Estate, section 74, block 13, H&TCRR survey, Knox County, was completed for 190 b/d of 37-gravity oil through 16/64-in. choke and perforations at 2,570-77 ft. The Tannehill sand pool opener is 2 mi. northwest of Southwest Benjamin field.

**Texas Panhandle**—El Paso Natural Gas Co. No. 1-B Kelln, 1,600 FSL and 857 FWL, 111-43, H&TC survey, Ochiltree County, flowed 45-gravity oil at the rate of 25 bbl. per hour for 15 hours through perforations in the Tonkawa at 7,298-314 ft. before being shut in for storage. The discovery, 1 mi. southeast of a recent Tonkawa gas discovery, is 8 mi. northeast of oil production.

**North Dakota**—Pioneer Oil Co. No. 1 Ormiston, section 25-162n-90w, Burke County, swabbed 296 b/d through perforations at 5,945-54 ft. in the Madison. The discovery is 4½ mi. southeast of Woburn and Wiley fields.

In Burke County, McAlester Fuel Co. et al No. 1 Larson, section 22-163n-90w, recovered 50 bbl. of water through perforations at 5,600-10 ft. in the Mississippian. It then flowed 85 bbl. of oil in 20 hours with no water through a ¼-in. choke. The wildcat is 2 mi. east of Flaxton field.

**South Louisiana**—The Texas Co. No. 207 Louisiana Land & Exploration Co., in the Leeville field, Lafourche Parish, was dually completed to flow 216 b/d of 35.1-gravity oil through 6/64-in. choke and perforations at 10,944-50 ft. in the new pay zone, and 156 b/d of 33.8-gravity oil through 6/64-in. choke and perforations at 10,064-82 ft.

**Alberta**—Pan American Petroleum Corp. No. 1-A Woking, 1sd 10-25-75-5w6, in the Saddle Hills area, flowed an estimated 36-million cu. ft. of gas daily through perforations at 4,611-21 ft. in the Blue Sky. The discovery is 10 mi. east of production.

**East Texas**—Humble Oil & Refining Co. No. 1 Emma Walter, Cass County School Land survey, A-174, Cass County Smackover discovery, flowed an estimated 5-million cu. ft. of gas per day and some condensate through perforations at 10,380-90 ft.

It is the first Smackover pay in the county.

**Oklahoma**—W. & W. Steel Co. No. 1 Florence Ward, section 20-5n-4e, Pontotoc County, was completed on the pump for 100 b/d of oil and 100 b/d of sulfur water through perforations at 2,858-61 ft. in the Wilcox, a new pay for the area. The discovery is ¾ mi. west of Lees Spring pool, where regular production is from pre-Pennsylvanian.

**West Central Texas**—Anderson & Graham No. 1 J. C. Bloxom, section 528, John Brown survey, Runnels County, flowed 210 bbl. of 45-gravity oil in 23 hours through 18/64-in. choke and perforations at 4,001-07 ft. in the lower Jennings. The discovery is located 2 mi. east of South Ballinger field.

EXPANDED OSTRICA (LA.) TERMINAL, on the Mississippi River south of New Orleans, with its 5-hose loading system for supertankers and its "pancake" storage tanks, has just gone into full operation for Gulf Refining Co. Does it provide, as Gulf feels, the . . .

# Fastest Tanker Loading in U.S.?

**Gulf Refining Co. now has in full operation what it calls "the fastest oil loading terminal in the United States" at Ostrica, La., on the Mississippi River 75 mi. south of New Orleans.**

The terminal, connected by four short pipelines to nearby producing fields, has long been an important dispatch point for crude heading for Gulf's Port Arthur (Tex.) and Philadelphia refineries.

Just recently, however, Gulf completed a build-up in the terminal's size and loading capacity:

**Gulf says the Ostrica terminal can now load a 32,600-ton supertanker in "a little more than 6 hours", which experts say is considerably faster than the loading rate of other U.S. crude terminals.**

At Ostrica, oil is brought from storage to dockside by 26-in. suction feed lines and 20-in. twin extension lines. The crude is then pumped aboard the vessel through five 10-in. flexible hoses. Hose-systems like this one are one of several types of tanker-loading installations that seem to be catching on at coastal terminals (PW—Feb.21'58,p94).

Gulf says the hose setup at Ostrica can send up to 38,000 bbl. of crude aboard a supertanker per hour. Average supertanker loading rate with the system is 30,000 bph.

Two Johnston model 3-stage vertical turbine pumps, with auxiliary equipment, provide the muscle for the exceptional loading rate.

By contrast, most terminals take between eight and ten hours to load tankers in the 32,000-ton class.

The terminal can load a supertanker, a T-2 (16,700-tonner), and several barges simultaneously at the separate docking facilities provided for each.

The terminal can pump crude aboard T-2s at up to 29,000 bph and move it into barges at a maximum rate of 15,000 bph.

**The 750,000-bbl. crude terminal has something different in storage—"pancake" type tanks.**

Built in a marsh, the terminal posed a mighty tough construction problem. To help solve it, Gulf went to "pancake" type tanks, which, with their broadened diameter, reduced the settling problem.

The terminal has four such "pancakes" for crude storage, each with a capacity of 78,000 bbl. Nine other conventional tanks account for about 435,000 bbl. in storage capacity.

"Pancakes" are also used for other storage. Two (each 78,000 bbl.) hold bunker fuel, and two others (55,000 bbl. each) hold ballast disposal.

**As a focal point for a wide network of oil operations, the Ostrica terminal has—and must have—a complete, reliable, and up-to-date communications set up.**

The Gulf terminal has radio, leased and regular telephone service, and teletype.

And to insure continued operation in the event of electrical power failure, Gulf has installed its own 75 KVA generating plant, capable of supplying enough power for the whole terminal.

**Expansions at Ostrica have come about largely because of Gulf's increasing crude reserves in the area on one hand, and three world crises on the other.**

In 1937, Gulf's major producing field in the area was Quarantine Bay. The crude from the bay area was barged to New Orleans, then to the company's Port Arthur refinery.

To eliminate the New Orleans leg, Gulf bought 90 acres of Ostrica river-

front land and built a barge terminal.

Before long, the field and terminal were connected by a short pipeline.

World War II and the discovery of new fields south and southwest of Gulf's producing properties in the area increased the importance of the terminal. Via the Intracoastal Canal, crude shipments followed a submarine-free route to Port Arthur.

By 1948, Gulf had built loading facilities to handle T-2 tankers.

The outbreak of the Korean War precipitated phase two of the terminal's growth—the addition of another crude line, along with a boost in storage capacity.

With the growth of tanker size in recent years, there was some discussion among Gulf planners concerning the worth of building a loading facility capable of handling supertankers at Ostrica. No action on this had been taken up to late 1956, when the Suez crisis made up Gulf management's mind.

**The Mississippi's nature and moods have made certain that neither construction nor operation of the terminal has been routine.**

Especially long pilings—35 ft. to 60 ft.—were brought from Oregon to give the terminal's structures some stability in the mud marsh.

The terminal's equipment had to be engineered to stand up under even the roughest operating conditions—such as those which exist when simultaneous supertanker, T-2, and barge loading makes it necessary to move some 80,000 bbl. of crude per hour across the dock.

During the second hour of loading a supertanker, when the "wide-open" stake is reached, some 10-million lb. of crude oil is moving into the vessel, causing it to sink 5 ft. in the water.

Coupled with this sinking, the swift river current can disrupt operations unless mooring lines are kept at proper adjustment. Also, the channel for the tankers must be dredged continuously. Otherwise, bars can silt into being in a matter of hours.

**Currently, Gulf is moving about 120,000 b/d of crude from 11 fields through the terminal. But this total could be easily increased if necessary.**

Currently, plans are to load Gulf supertankers up to the 32,600-ton class. Gulf has four such vessels in service. However, some larger tankers are under Gulf charter, and others are being built for the company. If it should become necessary to move crude in such larger tankers—say because of an international crisis—Gulf's problem would be more in getting larger supertankers up the river than handling them at Ostrica.

# What's New / IN TRANSPORTATION

**A three-year hassle ended last week when 14 independent natural gas producers in southwest Texas agreed to continue selling gas to Texas Illinois Natural Gas Pipe Line Co.**

In early 1955, the producers served notice of termination of their contracts with Texas Illinois. But the Federal Power Commission stepped in and ruled that FPC approval was necessary before the producers could withdraw from the contracts.

Now FPC says a settlement has just been reached which "will assure Texas Illinois continuation of its contract" with the producers.

•

**Magnolia Pipe Line Co. is installing a microwave radio system for remote control of pump stations along the Dallas-to-Beaumont section of its Texas crude system.**

By early January, Magnolia says, it will have a $400,000, 11-tower network in operation on the system. The microwave communication will enable Magnolia to operate its Grapeland, Groveton, and Bragg pump stations unattended.

•

**Construction will begin early next month on the 1,500-mi. natural gas line from Texas to Miami, Fla.,** according to Houston Corp., parent of Houston Texas Gas & Oil Corp. which will build and operate the line.

Completion of the line is now set for July 1, 1959.

•

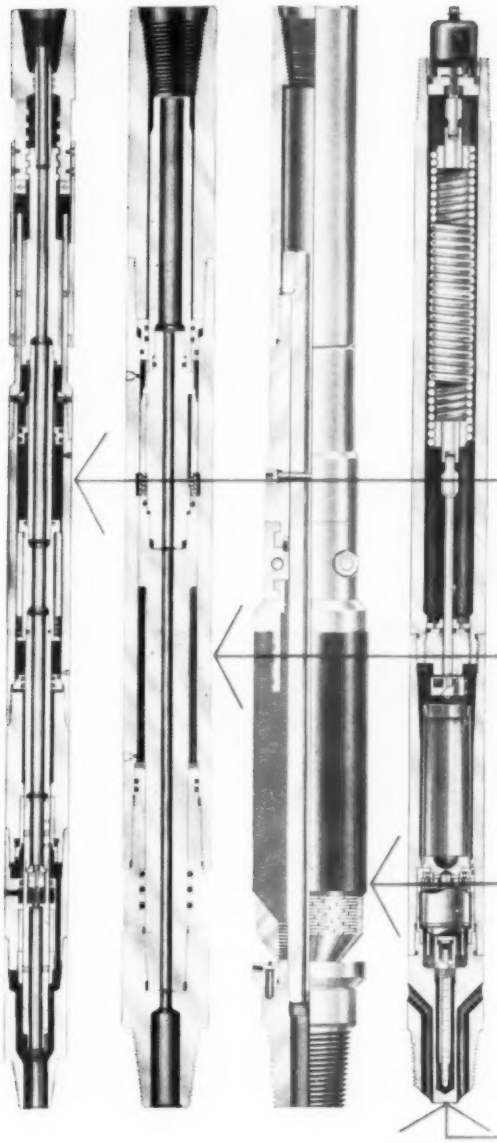
**Underground storage of natural gas is coming to the Spokane (Wash.) area.**

Spokane County Commissioners have just approved a proposal by a utility to lease a 40-acre site north of the city of Spokane for the storage facility.

## Marines Get Portable Fuel Systems

**The U. S. Marine Corps has its own kind of service station—a traveling system of hoses and tanks to "fill'er up" for Marine planes and combat vehicles just about anywhere in the world. The system, made up of 42 rubberized, collapsible, 10,000-gal. tanks, will start to be assembled as soon as the Leathernecks take a beachhead. Two tanks, a pump, and auxiliary equipment will be set up on the beach and will receive fuel from a tanker just offshore. When the troops advance, hose will be laid from the beachhead tanks inland to booster tanks. Still later, hose will be laid from the boosters further inland to a tank farm made up of 30 of the rubberized tanks.**

**The Marines have ordered 13 such systems from the Firestone Tire & Rubber Co.**



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*Johnston's thirty years of manufacturing and testing know-how is easily recognized in The Tool The Test Designed. Each piece of Johnston equipment is designed to meet the requirements of the test under all types of well conditions.*

Rely on Johnston for all your drill stem test needs always. Johnston Testers, Inc., Houston, Texas; Long Beach, California; Calgary, Alberta, Canada. Export Sales Office, Houston, Texas.

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**JOHNSTON TESTERS**

Photo courtesy of Caterpillar Tractor Co.

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DEPT/International

# Unions Gain Importance in Venezuela

**CARACAS—Labor holds the key to any potential oil crisis in Venezuela. The labor movement is essentially a political movement here, and particular attention is being focused on newly revived oil union activities.**

Venezuelan oil workers, relatively voiceless under the former regime, had their first chance in 10 years to speak up on national oil policies during the oil worker's convention in Caracas this month.

The convention, attended by about 250 delegates representing 40,000 oil workers, united 40 unions in a new union confederation.

**Relief—for the time being—was evoked at the moderate turn the recent oil worker's convention took after earlier indications of trouble from Communist groups** trying to gain control.

But the Communists did show substantial strength with a delegation making up over one-fourth of the convention membership. They won two of the ten posts on the union federation's executive committee, including the key position of organization secretary (PW—Aug.22'58,p12).

**The moderate turn of the convention reflected the strength of the Accion Democratica party, now Venezuela's strongest, which—for the time being—appears to be advocating conciliatory labor tactics.**

Luis Tovar, veteran labor leader of the party, was elected president of the reorganized oil worker's federation. And the party captured four executive council posts.

Like the British Labor party, which it resembles in some respects, AD is divided into a "moderate" old guard led by its president, Romulo Betancourt (former president of Venezuela), and a rising younger faction which is more uncompromisingly Marxist-Socialist. AD union leaders are generally in the "moderate" camp.

Some members of the AD's left wing are probably sympathetic to the Communists, but it is impossible to gauge the size and influence of this group at present.

The Communists have also infiltrated the other parties, but the extent of their influence is not known.

**Within the oil convention—and the labor movement in general—there is an organizational struggle between opposing viewpoints on how unions should be organized.**

The Communists favor big unions, since they are easier to control, while Copei (the Social-Christian party)—and apparently AD—union leaders favor the small, local unions.

**DESPITE the "no more oil concessions" and similar banners carried in this May Day parade, Venezuelan oil unions have been taking a calmer stand in recent meetings.**

Observers feel the latter viewpoint will prevail, since some 40 local unions with their vested interests are already in existence.

**Oil strikes can be used as a political weapon in Venezuela, not necessarily directed against the oil companies, but rather as a means of asserting control over the Venezuelan economy.**

The symbolic general strike on July 23, including the oil workers, was a demonstration of support of the present junta. It was intended as a warning that the economy would be paralyzed if the government were overthrown.

AD-controlled unions tried a political strike early in 1949 against the Perez Jimenez junta. It failed and Jimenez abolished the AD unions, leaving the Communists in control.

The Communists then called a strike in May, 1950, over contract negotiations. It was crushed and the Communist unions were abolished.

Then government-controlled unions gradually took over the labor movement.

A few unions affiliated with the Copei party managed to survive the dictatorship. Among them is one of the biggest, which includes a majority of the refinery workers of Shell and Creole at Cardon and Amuay. Since it was not under government control, this was the only oil union that went on strike in support of the January 23 overthrow of Perez Jimenez.

**Greater oil company use of drilling contractors ran into strong labor opposition at the convention.** Unions object to their use because contractors are not bound by terms of oil company labor contracts, and generally are able to provide fewer benefits and less job stability. Oil companies consider that use of contractors is a more efficient way of operating. But the unions claim that it is a means of dodging responsibilities to workers by getting them off company payrolls. The convention agenda calls for flat abolition of contractors—but this is considered an unlikely development.

**The convention, however, wound up by voting to adhere to the present collective contract** expiring in September, 1959, asking the oil companies to negotiate the interpretation of certain clauses. In return, the workers would agree to sign a labor truce.

The convention also passed resolutions calling for: a 75-25 profits split; creation of a national tanker fleet; Venezuelan registration of tankers carrying crude to the Dutch Antilles; and a campaign against tankers registered in Panama, Liberia, Honduras, and Costa Rica.

**The average direct wage of oil**

**workers on the daily payrolls at present is about $8 a day.**

Three-year contracts signed in September, 1956, after industry-wide negotiations, provided a minimum daily wage of about $6.50, plus an across-the-board wage boost of 10%.

**But the average labor cost to the companies per day actually worked is about three times that much—$24 per worker**—because of indirect wages (e.g. all workers in Venezuela are paid for Sundays), mandatory annual bonuses, and extensive fringe benefits, such as housing allowances, vacations, travel pay, medical and hospital facilities, unemployment and service indemnities.

**Oil workers are the elite of Venezuela's working class.** Wage scales vary widely among various types of industries. Workers in some Venezuelan factories earn as little as $1.50 a day, plus benefits.

**About half of Venezuela's approximately 45,500 oil workers are signed up in the 40 unions.**

The number of workers employed by the oil industry rose to a peak of 58,400 in 1948, dropped to 42,800 in 1955, and rose somewhat to 45,500 in 1957 after the granting of new concessions.

The 1948 peak was due to featherbedding at the end of the administration of labor-oriented Accion Democratica. Subsequent oil industry cutbacks in personnel were possible largely because Perez Jimenez progressively cracked down on unions. Some of the reduction is due to technological advances, as the unions themselves recognize. But the unions say that industry payrolls have been reduced in a period when oil production has doubled, and oil refining has expanded greatly. The refining segment employed only 1,000 in 1948, as compared with 7,000 in 1957.

***Yamashita ponders . . .***

# Mideast Future for Japan?

**TOKYO—Taro Yamashita, president of Japan's new Arabian Oil Co., told Petroleum Week this week that his company would have to secure additional financing "probably by early next year."**

The Japanese company now has a paid-up capital of 3.5-billion yen (about $10-million) and is authorized to go up to 10-billion yen.

The 69-year-old Yamashita, a veteran of many a campaign in the Japanese and Manchurian business world but a rank amateur in oil, said his company's financing plans are "confidential." But he stated flatly that the company does not seek government funds: it doesn't want the kind of interference that goes with government investment in the Arabian project. (At the same time, the Saudi Arabian government has made it clear that no foreign government can participate in the concession.)

The Japanese company feels that further financing will be available from the 52 Japanese manufacturing firms, which, together with 10 individuals, are stockholders in the company. And it feels it could later turn to the banks for help.

**Yamashita also said his company expects to find "commercial" quantities of oil in its Neutral Zone offshore concession, which lies adjacent to Aramco's offshore Safaniya field, "by year after next."**

Seismic work, being conducted by Geophysical Service International, is already under way (PW—Aug.15'58, p44). And the company expects to get three to five wildcats started in one year beginning in 1959. Cost is estimated at $5.6-million.

Taro Yamashita

Ministry of International Trade & Industry officials, however, believe it will take at least two years to find oil, and another five to develop commercial production from the area the company has set as its target.

**The Japanese company denies that it will eventually try to squeeze international oil suppliers from the Japanese market.**

Yamashita takes the line that Japan's present 30% to 40% refining overcapacity in the industry, and the recent downturn in the rate of demand growth, are temporary phenomena.

"I would like to have good relations with leading world petroleum suppliers," he said. "We are using about 15-million tons of oil a year. The majority of it is imported by British and American companies. And I have no idea of moving in to break up this supply pattern.

"As everyone knows, the demand for oil here has been increasing rapidly. And we are trying to get this growth market. I do not want to disturb present set-ups, either price-wise, or volume-wise."

**Yamashita says it will be a "long time" before his company can enter retail sales.**

Asked if he interpreted the terms of his agreements with Kuwait and Saudi Arabia as a contract to enter retail marketing, Yamashita said: "We may finally get into retail marketing. But our first aim is to provide profits for our two governments (Kuwait and Saudi Arabia). Eventually we are aiming at retail sales, yes, but it will be a long time before we do that."

**Yamashita denied that the aim of his Middle East venture was to save Japan foreign exchange, but claimed that there will be dollar savings nevertheless.**

There has been mounting press criticism of the company's agreement to pay the two Arab government's royalties in dollars. In addition, the firm will incur dollar costs for the oil search, oil development, labor, and foreign equipment.

Yamashita, however, claims 43% of the oil will be yen oil under the 57-43% profits split with the Arabs, and that there will be foreign exchange savings in freight, since Japanese tankers will get preference, and in material, some of which will be supplied from Japan.

Industry sources here, however, point out that about the only Japanese product that could be supplied is pipe. And most of Japan's pipe production is now being bought up for dollars.

**The number one impetus behind Arabian Oil Co.'s organization, Yamashita stated, was to get a place for the Japanese in Middle East oil.**

There is a growing evidence that this was the mood in those sectors of the government that supported the idea when it was initiated more than two years ago. But there was consid-

crable opposition, especially in the Finance Ministry, which was worried over the initial foreign exchange outlay required.

A Western diplomatic source put it this way: "Suez convinced the Japanese that they should not have to depend on U.S. and British oil companies in the Middle East. They think their own company might be immune if things get worse."

Other sources, however, pointed out that if a crisis occurred in the Persian Gulf, the Japanese firm would be stuck without alternate sources of supply.

Yamashita put it this way: "God has given us the globe. All men have the right to explore it. I think Western people who believe in God ought to welcome us."

**Yamashita answered "no comment" when asked how he will meet the price competition of discounted oil now being sold in the Japanese market.**

Japanese circles note that Arabian Oil Co. agreed to pay royalties to the Arab governments on the basis of Persian Gulf posted prices. With the current Persian Gulf oil surplus expected to last at least for the next ten years, some believe the Japanese company either will have to cut sharply into its profits to pay the royalty to the Arab governments, or the Japanese government will have to give the company's oil preferential foreign exchange license treatment.

# What's New / AROUND THE WORLD

## More Japanese Surplus Gasoline to West Coast

**JAPAN—More surplus Japanese gasoline and light fuel oil may be turning up on the U.S. West Coast.**

Maruzen Oil Co., Japan's chief independent, which is refining crude oil supplied through Union Oil Co. of California, has extended its contract with the latter under which surplus products are shipped to the U.S. West Coast. The new arrangement covers the period from Aug. 1, 1958, to March, 1959.

The Japanese firm will export 180,000 tons of light oil and unfinished gasoline worth $4-million, and Union will supply it with 400,000 tons of crude.

Meanwhile, Richfield Oil Corp., of Los Angeles, is talking with Idemitsu Kosan about shipping Japanese motor gasoline to the U.S. Shipments of the undisclosed volumes would start in September. The company plans to import lube oil on the return trip.

•

**GERMANY—Petrofina expects to spend $38-million here on its new refinery for Middle East crude and the Wilhelmshaven pipeline.**

The first 20,000 b/d stage of its new $31-million refinery at Duisburg-Neuenkamp, will come on stream in the last half of next year. The plant will later be expanded to 60,000 b/d. The company's share in the pipeline is $7-million.

•

**ALGERIA—Issuance of a new oil permit in the disputed border area of Tindouf is France's retort to the recent Italian-Moroccan oil deal in an adjacent area.**

The region around Tindouf in West Sahara has been the subject of a border dispute between France and Morocco since the latter's independence.

The French wanted to set up a community of interests in the region, with a 50-50 profits split. But the Moroccans refused. Then the French suggested a consortium. But Morocco preferred to wind up its recently announced deal with Italy's ENI, under which the Italians and Moroccans will explore the border province of Tarfaya.

As a result, the French government granted Safrep, a company it controls, the 27,000-sq.-mi. Tindouf permit—partly continuous to Tarfaya—which the company had requested in May, 1956. Morocco has filed an official protest with France.

•

**IRAQ—Dr. Nadim Pachachi, Iraq's top oil policy official before the revolution, is among the 110 civilian and military leaders of the old regime now on trial.**

No individual charges have been made so far, but it is believed Dr. Pachachi's case will come under the charges of "directing the policy of the country contrary to the national interest" and of "corruption."

•

**IVORY COAST—Plymouth Oil Co. and its associates will spud their 13,000-ft. deep test here next week** (PW—May9'58,p74).

The drill site is a few miles east of Abidjan. A 51% interest in the venture is held by a French government-controlled firm, and another 10% by M. L. Benedum and Benedum-Trees Oil Co.

**BRAZIL—Thirty British companies will supply $11.2-million worth of equipment for the projected 90,000 b/d refinery near Rio de Janeiro.**

Known as British Refinery Constructors (Brefcon), the group includes Babcock & Wilcox, British-Thomson Houston, Stewards & Lloyds, John Thompson, and Balfour Beatty Co. Foster Wheeler, Ltd., will design, engineer, and supervise construction of the plant.

The contract comes on top of last week's $5-million transaction for U.S. equipment for the refinery (PW—Aug.22'58,p46).

Brazil is also planning a synthetic rubber plant adjacent to the refinery, and a 24-in., 80-mi. pipeline. Bids have been submitted by British and other companies.

•

**VENEZUELA—Construction of Creole Petroleum Corp.'s fourth big gas injection plant in Lake Maracaibo has been moved ahead to assist government efforts to stimulate the Venezuelan economy,** still suffering from the after-effects of the January revolution.

Work on the plant, 4½ mi. offshore from Tia Juana, will start in September and be completed in 1½ years.

The plant will re-inject 145-million cu. ft. daily of gas at 2,500 psi. for gas conservation and for increased crude recovery from the reservoir. Centrifugal compressors will be powered by gas turbine engines.

Creole's 300-million cu. ft. daily Tia Juana No. 3 will be completed around the end of this year. The fourth unit will give Creole a total re-injection capacity in Lake Maracaibo of 888-million cu. ft. daily, and an over-all investment of $125-million in plants and gathering systems.

# El Paso Builds 'Inside-Outside' Plant

**Sub-zero weather, driving snow storms, and high winds during winter prompted El Paso Natural Gas Products Co. to enclose most of its new Opal (Wyo.) natural gasoline plant to protect it from the elements.**

**A new natural gasoline plant now under construction near Opal (Wyo.) by El Paso Natural Gas Products Co. will be virtually self-enclosed to protect it against adverse weather.**

The plant, to be owned and operated by El Paso, will process 250-million cu. ft. of natural gas daily from the Big Piney field. Site of the plant is near the junction of Pacific Northwest Pipeline Corp.'s 16-in. field feeder line from the Big Piney field with its main 22-in. transmission line. The cost of the project is estimated at $5-million to $6-million.

**This is the first time El Paso has used the "enclosed" construction technique for a natural gasoline plant.**

Southwestern Wyoming, where the plant will be located, is subject to occasional sub-zero temperatures, driving snow storms, and high winds during the winter.

To protect against such weather, all process units, including the base of the fractionating and absorption towers, will be enclosed. Only the Fin Fan coolers and gas cooling train will remain uncovered.

An inside temperature of 40F will be maintained in the winter months in the process buildings. The central control room will be heated to 70F.

According to Hugh Steen, vice president and general manager of El Paso Natural Gas Products Co., the company believes this is the first time a natural gas extraction plant will be constructed primarily indoors.

**Three other process techniques in the Opal plant are new to El Paso —refrigeration-type extraction, dry stripping, and plant-wide air cooling.**

While these techniques have been employed by other natural gasoline plants, this is the first application of them by El Paso.

**In refrigeration extraction, the wet gas processed in the plant and the absorption oil in the absorber are chilled to zero degrees** by the use of propane refrigeration. This increases the amount of liquids recovery from the gas as compared to conventional non-refrigerated extraction processes. El Paso hopes that the use of refrigeration will allow it to achieve a 60% propane recovery from the gas being processed in the plant.

**Dry stripping of the light hydrocarbons from the absorption oil has proven more economical than conventional steam-stripping,** according to El Paso spokesmen.

Steam-stripping has been used in all of El Paso's other natural gasoline plants. However, by using dry stripping (no outside media such as steam to assist in separating extracted liquids from the absorption oil) two advantages result, (1) a lower molecular weight absorption oil can be used, and (2) water (from condensed steam) is not introduced into the already dehydrated liquids. A fired heater will furnish heat for the stripping column.

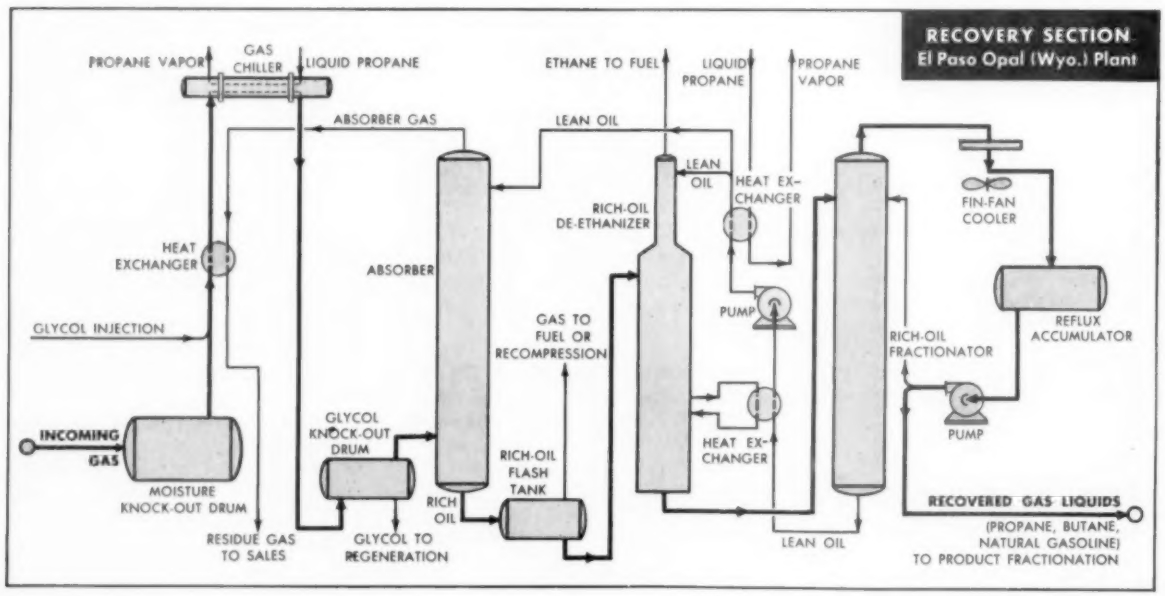
**The decision to use air cooling was based on the low prevailing temperatures in southwestern Wyoming.** In this way, advantage can be taken of the natural atmospheric cooling, reducing the amount of process cooling water and associated pumping and piping equipment needed in the plant.

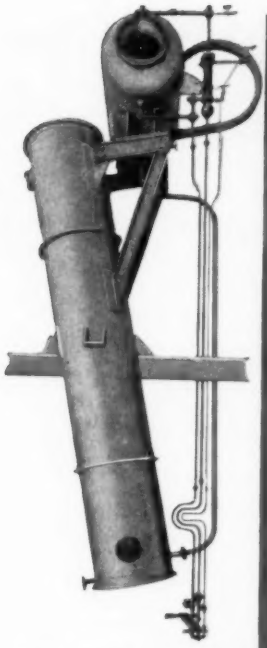
**Products from the plant include 267,000 gal. a day of liquids and residue gas.**

Daily production will include 122,000 gal. of propane, 83,000 gal. of butane, and 62,000 gal. of natural gasoline.

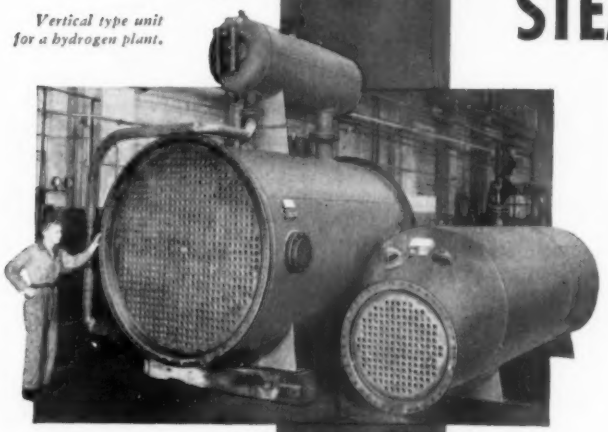
Most of the natural gasoline will be sent to Salt Lake City refineries for blending into motor gasolines. Residue gas from the plant will be delivered into the transmission facilities of Pacific Northwest.

The Opal plant will process both

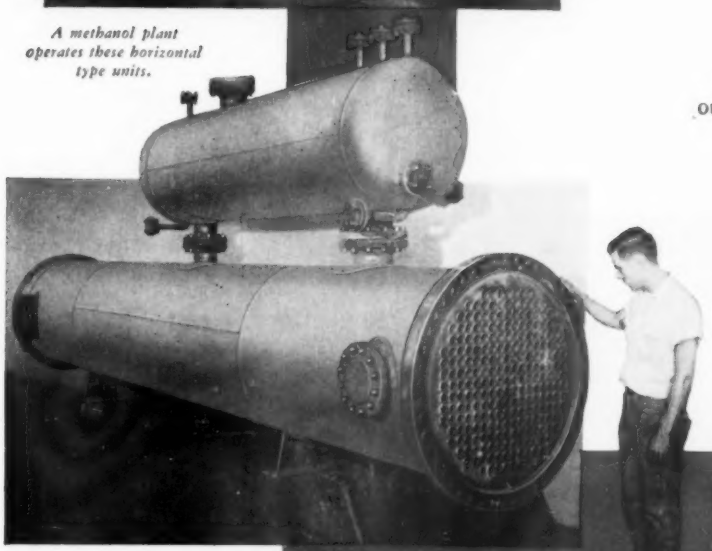




Vertical type unit for a hydrogen plant.



A methanol plant operates these horizontal type units.



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**low-pressure and high-pressure gas from the Big Piney field.**

El Paso has no production of its own in the Big Piney field, but does have long-term purchase contracts with several producers and will process gas for other producers under contract to Pacific Northwest.

**Gas for the Opal plant will be collected through an existing system owned by Pacific Northwest and various producers in the field.**

The gas will be delivered to El Paso's plant through a 51.3-mi. long, 16-in. pipeline owned and operated by Pacific Northwest. To handle the increased volume of gas, Pacific Northwest plans to build a 30-in. pipeline, looping its 16-in. line.

**The low pressure gas from the field will be compressed in an existing field compressor station,** located approximately in the center of the Big Piney field.

Four of the compressor units in this station, with a total of 4,620 hp., are owned by Pacific Northwest, while four 880-hp. units are owned by Belco Petroleum Corp.

**Completion of El Paso's Opal plant is expected to lead to a more rapid development of the Big Piney field.**

The initial discovery in the field was made in 1938, when low-pressure gas was encountered at a shallow depth. Low-pressure gas is now produced from two shallow pay zones, the Almy and Mesa Verde, ranging in depth from 620 to 3,100 feet.

To date, about 58 wells have been completed from the Almy formation with a total daily production of about 112-million cu. ft. Two gas wells and five oil wells have been completed in the Mesa Verde, with a combined daily production of 6-million cu. ft.

High pressure gas was discovered in 1943 in a deeper formation. Two zones, the Frontier and Muddy, were found productive at depths ranging from 5,000 to 9,000 ft. Twenty-five high pressure gas wells have been completed in the deeper formation with production estimated at 250-million cu. ft. a day.

**Major producers in the Big Piney field include** Belfer Natural Gas Co., Belco Petroleum Corp., Gulf Oil Corp., and General Petroleum Corp.

Other producers include Big Piney Oil & Gas Co., Carter Oil Co., Pan American Petroleum Corp. and Phillips Petroleum Co.

**The design and construction contract for the plant was let to Fluor Corp., Ltd. of Los Angeles.** Work was started June 15, and is expected to be completed by Jan. 1, 1959.

# 'Air-Lubrication' Won't KO Lubes

**Air-lubrication of mechanical parts, an old art with new promise, is coming into its own to solve problems beyond conventional petroleum lubricants.**

The possibility of using air as a lubricant was recognized over 100 years ago. As long as 60 years ago, experiments were conducted with air-lubricated journal bearings. In the last decade, there has been renewed interest in air-lubricated bearings.

**The basis of air-lubrication is to hold a film of air between moving parts to prevent direct metal-to-metal contact.**

This is accomplished by injecting high-pressure air (gases such as neon or helium have been tested) around the bearing to be lubricated.

**One promising use for air-lubrication is in hot areas in nuclear turbines where nothing else will work.**

According to a Ford Motor Co. spokesman, an immediate future application for air "levitation" lubrication could be around the drive shaft in the burner area of nuclear-powered turbine engines. Not even silicone grease can withstand these 1,500F temperatures.

**Bearings, lubricated by air, have already found a few specialized applications in precision equipment.**

Memory devices for digital computers and moving parts in high precision gyroscopes are two current uses.

Such bearings, with their superior lubrication and reduced friction, are considered particularly valuable in applications where long, uninterrupted operation at low power is needed.

**Other applications of the method have been where cost is not a factor, such as in military equipment.**

General Electric Co. reportedly has produced air-levitated gyros that weigh five tons. During the war, a few pill boxes were lubricated by air.

Douglas Aircraft Co. has developed an air-levitation landing system and the Air Force may use the principle to replace runners on the sleds in acceleration tests at Muroc.

**At least 50 companies have worked on air-lubrication at one time or another.**

Those reported to be active in current studies of air-lubrication include, as well as Ford, General Electric, and Douglas, the Franklin Institute, Armour Research Foundation, Arthur D. Little, Inc., and North American Aviation, Inc.

**However, there seems to be no immediate threat to the market position of petroleum lubricants.**

As pointed out by the Ford spokesman, "There is no point in building one part of a 10-year life-span machine so that it will last indefinitely."

This factor, plus directional loads, makes application to reciprocating engines improbable.

# Computer Measures 160 Process Variables

**An 'Operating Guide Computer,' made by Leeds and Northrup Co., is now in use at Esso Standard Oil Co.'s Baton Rouge refinery.**

**The computer measures 160 process variables (of which 27 are computed operating guides such as catalyst circulation rate, carbon burning rate, material balance) on a catalytic cracking unit.**

**According to Esso, the system is expected to help operators improve process performance and to furnish data for ultimate "closing of the loop" computer control.**

# What's New / IN PROCESSING

**Standard Oil Co. (Ind.) has licensed its aromatics oxidation process to Imperial Chemical Industries Ltd. of England.**

ICI will use the process in a new plant to make 30-million lb. a year of terephthalic acid at its giant Wilton Works near Middlesborough, England. Completion of the new plant in 1960 will approximately double output of the acid by ICI, and will raise the company's "Terylene" (similar to Du Pont "Dacron") fiber-making capacity to 50-million lb. a year.

ICI is the fourth announced licensee for Indiana Standard's process. The first, nearing completion of a plant at Joliet, Ill., is Amoco Chemicals Corp. The other two are in Japan. Scientific Design Co., Inc., will perform complete design and engineering service for ICI.

•

**Russia is claiming new progress in making and transporting "solid" gasoline.**

Liquid gasoline is mixed with plastic to form a paste of 95% gasoline. The material is then formed into bricks and wrapped in special film to prevent evaporation. The bricks are later submitted to pressure to produce liquid fuel. Russian claims are that this system is applicable under conditions where mass movement of liquid products has been impossible.

•

**Russia reportedly is building a shale oil plant at Kochtla Jarwe, Estonia.**

The plant is said to be designed to handle 4-million tons of oil shale annually, to yield 10,000 b/d of shale oil. The oil will be used as boiler fuel in a large power station under construction on an adjacent site.

•

**The Chinese communists are claiming a scientific victory in a greatly improved process to make synthetic petroleum from coal by Fischer-Tropsch synthesis.**

According to the Dairen Petroleum Institute of the Chinese Academy of Sciences, the improved process produces 11.9 lb. of synthetic petroleum for each 1,000 cu. ft. of water-gas raw material. The Institute says this is at least 30% greater yield than possible by any European or American process.

Previous reports from Japanese sources said that a lack of cobalt catalyst was holding back progress on the process. This latest announcement could mean that a substitute catalyst has been found, or that Russia is furnishing cobalt for the process.

•

**The Interior Department has received appropriations to build a new helium production plant near Keyes, Okla.**

Cost of the plant is estimated at about $12-million. This is the first step, according to Interior Secretary Seaton, in a long-range helium conservation program to recover and conserve some 3-billion cu. ft. a year of helium now wasted.

A dozen other helium plants have been proposed, but will not get Congressional action until next year. Completion of the program will permit long term helium contracts with private industry.

•

**Du Pont is producing a new type of Dacron polyester fiber in its Kinston (N. C.) plant.**

According to Du Pont, the new type Dacron (a material based on terephthalic acid, which is made from paraxylene) has all the crease-retention and wash-and-wear properties of regular Dacron, but has improved resistance to prilling—a drawback of regular Dacron. It will be available in men's winter suits and slacks in the fall of 1959.

•

**A new use for Gilsonite, natural hydrocarbon-containing ore found in Utah, has been developed. American Gilsonite Co. is using it to make a cold bituminous road paving concrete.**

Called Gilsapave road mix, the material is a mixture of Gilsonite ore, gravel, and an oil-base plasticizer. Advantages claimed for the road mix are that it can be laid cold at temperatures below 35F, it remains workable after being stockpiled in the open, is competitively priced with other asphalt mixes, can be made in conventional mixing plants, and is laid by the same hand and machine methods used for laying hot-mixed asphaltic pavement.


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BEACH BALLS build station traffic for Esso in shore areas.

# Majors Sell More Wares at Stations

**Dealers in one of Esso Standard Oil Co.'s marketing divisions are selling garden tools, beach balls, and other items as a means of building station traffic. The move signals a growing trend, some observers feel.**

The sale of items not related to automotive needs at a service station is certainly not new. Predictions of an era of "supermarket-type service stations" have been in the air for years. In fact, the subject has been a bone of contention for a long time, with major marketers traditionally opposing any move to divert a dealer's concentration from his main job of selling petroleum products and servicing automotive needs.

Lately, however, major companies have been taking a closer look at anything that might boost station income. Competition is tougher than ever and there's growing pressure to review marketing techniques carefully.

Some observers point to the growing strength of private-brand marketers as one factor that could force major brand stations to offer other merchandise. In some areas, private branders are doing immense volumes of business. Many of them promote such merchandise heavily.

**Major company interest in this merchandising approach is growing. One major is testing more than a dozen specialty items.**

A PETROLEUM WEEK spot check of key marketers reveals that companies are keeping a close watch on competitive moves in this direction. Few majors are actually promoting programs to handle non-automotive merchandise. Usually the practice is picked up by a dealer or a group of dealers in one area, and competition forces other dealers to follow.

One major company executive says, "As a company we haven't backed 'extracurricular' merchandise, but a strong trend toward this is developing in our distributor-operated areas . . . our stations there are selling all kinds of items. One reason for this trend is private-brand competition, but that isn't the whole story."

Along the same line, comes a recent prediction of a marketing expert that stations of the future will offer "comprehensive service"—including the sale of gardening tools, camping equipment, and other items.

**Station sales have climbed at a comparatively faster rate in the Esso district that gave the biggest push to the merchandise. Dealers are already planning new variations.**

The program started in the spring when some dealers offered garden tools. Beach balls were a popular item along the shore areas, and charcoal

briquets for outdoor cooking had wide appeal.

**The most popular item—a 29¢ tee shirt for kids—has a safety tie-in. This item brought Esso dealers free promotion and a "plus" on the public relations ledger.**

Motorist-parents poured into stations to buy gasoline and get "more of those tee shirts for my other children." The dealer gets only a small profit on any of these items. But the tee shirts—identifying the Esso oval with a safety slogan—caught the attention of public officials. This resulted in wide newspaper publicity. In Huntington, W. Va., a local children's TV program gave the shirts and Esso's Safety Club a big boost (picture, page 36).

**Marketers describe such items as "self-liquidating premiums," "giveaways," or "hard goods sold for profit."**

One company, which generally vetoes non-automotive items as a profit source, nevertheless catalogs items that dealers can buy to sell at low cost or to give away in special promotions.

Another major is so sure that stations are going to increase their lines of merchandise, that it's leaving room at new stations to handle other items.

# What's New / IN MARKETING

**BP Canada, Ltd., Canadian subsidiary of British Petroleum Co., Ltd., expects to be operating more than 400 service stations in eastern Canada by the end of the year.** Since BP entered the Canadian market about 18 months ago, it has built or purchased some 300 service stations in Quebec and Ontario.

To coincide with this rapid market expansion, BP's first Canadian refinery will go on stream in mid-1960. The 25,000 b/d plant is now under construction near Montreal.

•

**Market competition is getting hotter in Ohio, now that companies can move products in by pipeline (PW—Aug.22'58,p13). Phillips Petroleum Co., for one, is moving in with gasoline and heating oil** and is stepping up its already-substantial LP-gas distribution.

Phillips announced last week that it would move supplies from Texas through Texas Eastern Transmission Corp.'s Little Big Inch system. Phillips has just leased some 300,000 bbl. of product storage capacity and new truckloading facilities near Lebanon, Ohio.

Davis Oil Co. will market Phillips products in Dayton. In addition, negotiations are now under way with "numerous petroleum jobbers," including jobbers in Cincinnati and Columbus.

Dayton will be the first target in an intensive advertising and promotion campaign.

•

**D-X Sunray Oil Co. is offering a new low-cost group insurance program to its 12,000 wholesale and retail marketers and their employees.** Policies range from $1,000 to $5,000. Policyholders pay 60¢ per $1,000 per month, with the company also contributing.

The Metropolitan Life Insurance Co. plan permits D-X jobbers and dealers to cover employees with or without contributions.


**All day long, it's RUSH—RUSH—RUSH!**

***But there's still time to be well informed on the whole oil industry—with Petroleum Week's variable-speed reading***

**You get a fast-reading summary of every story, just by scanning the bold-face type.** This gives you the essential facts and main points of interest in quick, capsule form.

**The complete details of each article follow in light-face type.** To get the whole story, on items of particular interest, just read the light-face type as well as the bold.

This variable-speed reading technique, pioneered by Petroleum Week, was designed for busy men like you—to give you the industry-wide oil information you want and need, in the shortest possible time.



**DETERMINATION TO BUILD BETTER PIPELINES... A Mark of the Houston Contracting Man**

Determination, backed by skill and experience, to build pipelines right has always been a quality of Houston contracting men. Many have been pipelining for twenty or thirty years. Houston Contracting superintendents have been with the Company from 16 to 21 years. You can rely on these men for better-built pipelines.

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GENERAL CONTRACTORS
OIL • GAS
GASOLINE
WATER PIPELINES
HOUSTON 6, TEXAS

# DEPT/Service & Equipment Companies

E. H. Clark, Jr.

W. S. Althouse, Jr.

**E. H. CLARK, JR.,** has been appointed vice-president and assistant general manager of Baker Oil Tools, Inc. He formerly was head of the research department. **W. S. ALTHOUSE, JR.,** recently elected member of the board of directors, is the new manager of engineering and research. Prior to this, he was chief engineer. **G. D. HALL,** assistant secretary-treasurer and former assistant manager of the central division, is administrative director of Baker's Houston plant. **PAUL E. HILTON,** central division manager of sales and service, is a newly-elected vice-president and member of the board of directors.

G. D. Hall

P. E. Hilton

**CLYDE G. STRATTON** is manager of Aeroquip Corp.'s new Dallas plant. Stratton, formerly manager of the company's industrial warehouse in Dallas, will supervise assembly and administrative activities of the new plant.

**S. S. FOX** has been appointed assistant manager of sales for the wire rope and strand division, and **GENE LASCHOBER, JR.,** assistant manager of sales for the pipe and tube division, of Bethlehem Steel Co., in Bethlehem, Pa. Fox joined the Bethlehem organization in 1937, as a wire rope and strand salesman. La Schober was appointed a salesman in the pipe and tube division in 1947.

**W. R. WHEELER, JR.,** sales manager for American Iron & Machine Works Co., Oklahoma City, has been elected vice-president in charge of sales.

**PHILIP P. CORNELI** will service refineries in the Louisiana area, and **DAN PIETUCH** the Rocky Mountain and Western Canada area, for Tretolite Co., division of Petrolite Corp. Corneli, formerly a chemical engineer for Shell Oil Co. at Wood River, Ill., will be located at Baton Rouge. Pietuch, formerly refinery service engineer at Tretolite's Chicago office, transfers to Billings, Mont.

**R. J. GRIGSBY,** formerly a field salesman, has been appointed D+B specialist for Continental-Emsco Co. at New Harmony, Ind. **W. M. Harvard** will be D+B specialist at Laurel, Miss., and **Dan H. Moore** has been appointed store manager at the company's field supply store in El Dorado, Kan.

**JAMES GRADY FERGUSON** has moved to the Tulsa sales office of Wilson Supply Co. Ferguson, formerly in the tubular goods department in Houston, will assist **P. S. Stover,** manager of the sales office at Tulsa.

**DR. ARTHUR S. GOW, JR.,** has become a research chemist for M. W. Kellogg Co., New York and Jersey City subsidiary of Pullman, Inc. Gow, formerly with United States Steel Co., will be engaged in exploratory research at Kellogg's Jersey City research and development laboratory.

**J. FRED BUCKNER** has been appointed export sales representative in Venezuela for Byron Jackson Tools, Inc., a subsidiary of Borg-Warner Corp. He will be located in Maracaibo and will coordinate the stocking, sales, and service of BJ oil tools and PB rubber products in Venezuela and Colombia.

**KENNETH DEFFENBAUGH** has been elected vice-president and general manager of Crutcher-Rolfs-Cummings, Inc., oil field equipment manufacturer in Houston.

**DAVID M. LYON** has been appointed director of research of Electro-Motive Div. of General Motors. He succeeds **E. W. Kettering,** who is the new research assistant to the general manager. Lyon joined Electro-Motive's mechanical engineering section in 1948.

**I. B. ALLEN** is the new Venezuelan representative for Rolo Manufacturing Co. of Houston. He will make his headquarters in Caracas and will handle Rolo's line of oil metering equipment.

**KENNETH SHELLMAN** is manager of the new branch of Grant Oil Tool Co. in Liberal, Kan. He has been a field engineer with Grant for 17 years. The new office is for service and sales of Grant products in the southern Kansas and Texas panhandle areas.

**JOHN W. STRATH** has been appointed sales manager of Canadian Aero Service Ltd., Ottawa. The company does aerial exploration for oil and minerals and integrated surveys for engineering projects.

**J. S. RICHEY** has been appointed manager of contract sales for J. B. Beaird Co., Inc. **R. W. Rademacher** is the manager of Beaird's new eastern division in New York and **John Hendry** has been promoted to manager of compressor sales. Both contract sales and compressor sales are under the direction of **W. W. Sentell,** manager of the general products sales division.

**NORMAN A. FLETCHER** has been appointed manager of manufacturing for the valve division of Minneapolis-Honeywell Regulator Co., in Fort Washington, Pa. He will supervise all factory operations, including production control and purchasing.

**W. J. VARK** is the new district manager of Bethlehem Supply Co.'s Louisiana Gulf District, with headquarters at New Orleans. Vark joined the company in 1950 at Houston as a machinery sales trainee. Bethlehem has moved its Texas Gulf District headquarters from Houston to Beaumont. This district now comprises the store areas of Lake Charles, Beaumont, and Houston. **O. H. Crowe** is the district manager.

**GRAY TOOL CO.,** Houston manufacturer of wellhead control systems, Grayloc pipe connections, and rotary swivels, has appointed Ball & Black Supply Co. as California representative for Gray's line of oilfield equipment.

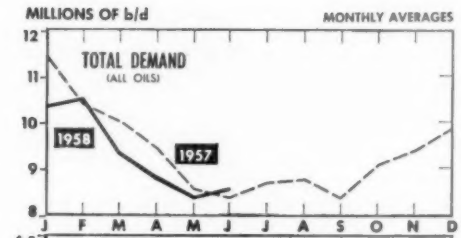
V. A. Hamilton

O. M. Lorenz

**V. A. HAMILTON** and **O. M. LORENZ** have been promoted to district sales managers for Jones & Laughlin Supply Division, according to **W. L. Wolfe,** vice-president, sales. Hamilton, former salesman at Pleasanton, Tex., is now sales manager for the Panhandle district, with headquarters at Amarillo. Lorenz steps up from assistant sales manager of the Illinois-Kentucky district to sales manager of that district with headquarters at Olney, Ill. Other changes: **D. C. Jones,** store manager at Muenster, Tex., is transferred in the same capacity to Graham, Tex.; **L. E. Owen,** storeman at Muenster is promoted to store manager there; **W. C. Blackledge,** store manager at Laurel, Miss., changes to salesman there; **H. E. Reeves,** sales trainee, is appointed salesman at Brookhaven, Miss.; **G. R. Cain,** storeman at Hobbs, N. M., is promoted to salesman at Kermit, Tex.; **D. R. Williams,** salesman at Snyder, Tex., is transferred to Tulsa in the same capacity; and **P. V. Ray,** salesman at Alice, Tex., is transferred to Pleasanton, Tex.

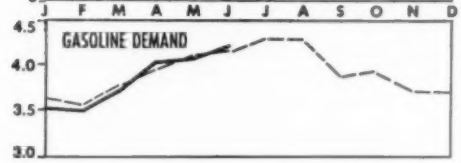
PETROLEUM WEEK'S

# Fingertip Figures



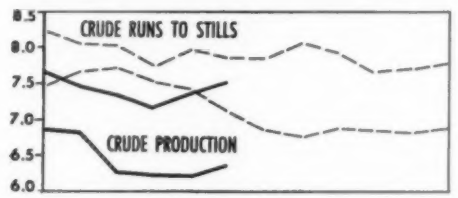

**TOTAL DEMAND**

| | |
|---|---|
| Latest week average | 8.712 |
| Year ago | 8.672 |




**GASOLINE DEMAND**

| | |
|---|---|
| Latest 4-week average | 4.299 |
| Year ago | 4.168 |

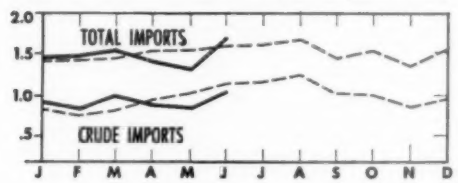



**RUNS TO STILLS**

| | |
|---|---|
| Latest week | 7.905 |
| Previous week | 7.713 |
| Year ago | 7.990 |

**CRUDE PRODUCTION**

| | |
|---|---|
| Latest week | 6.875 |
| Previous week | 6.839 |
| Year ago | 6.789 |

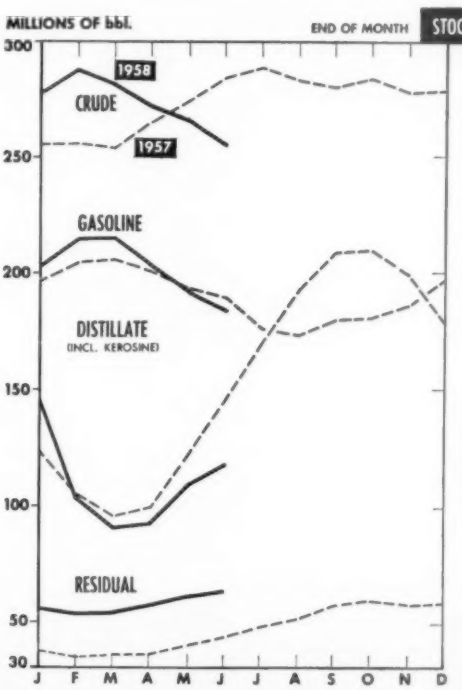



**TOTAL IMPORTS**

| | |
|---|---|
| Latest week | 1.441 |
| Previous week | 1.394 |
| Year ago | 1.610 |

**CRUDE IMPORTS**

| | |
|---|---|
| Latest week | .882 |
| Previous week | .815 |
| Year ago | 1.255 |




**CRUDE STOCKS**

| | |
|---|---|
| Week-ended 8-16 | 250.0 |
| Previous week | 249.8 |
| Year ago | 286.6 |

**GASOLINE**

| | |
|---|---|
| Latest week | 173.8 |
| Previous week | 176.5 |
| Year ago | 171.9 |

**DISTILLATES**

| | |
|---|---|
| Latest week | 160.1 |
| Previous week | 155.8 |
| Year ago | 182.9 |

**RESIDUAL**

| | |
|---|---|
| Latest week | 66.8 |
| Previous week | 67.2 |
| Year ago | 52.2 |

**Domestic crude production, which during August is surpassing the year-ago level, by September will exceed both the 1957 and 1956 rates.**

Current output of 6,875,000 b/d will be boosted to more than 7-million b/d next month as a result of the increased allowables in the major producing states.

Domestic production last September averaged 6,899,000 b/d. And in September, 1956, it amounted to 7,054,000 b/d.

**Production during August in 13 states is running ahead of the year-ago level. And 11 states are producing more than they did two years ago.**

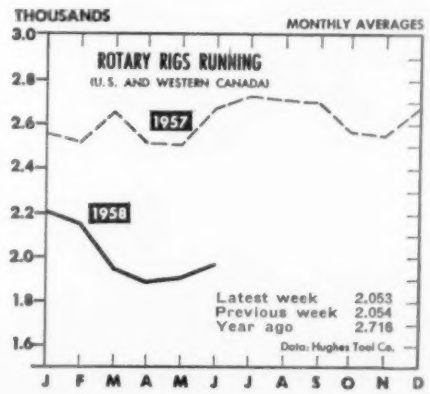
The largest gain is in Utah where current production of 105,000 b/d is nearly 11 times the year-ago rate and 12 times the August, 1956, level. The reason for such a sharp hike in Utah is due, of course, to the start of pipeline movement of oil from the Four Corners area this year.

For a similar reason, New Mexico's production is up 30,000 b/d over a year ago and 40,000 b/d over two years ago. Among the big producing states, only Louisiana is showing a gain over last year and 1956.

With the increased allowable next month, output in Texas may run slightly ahead of the September, 1957, rate but it will still be under the September, 1956, production of just over 3-million b/d.

With continued increases during the remainder of the year, production in nearly all states will start running ahead of the 1957 late months, when output was being held tight due to an oversupply.

**While the higher production will benefit domestic producers, it will mean higher refinery operating rates**—a move that will not help the industry generally during the next month. Runs this week at 7,905,000 b/d are far too high in the view of numerous industry leaders.



# The Market Trend

## Snow Time Ain't No Time for Gasoline

**For half-a-cent Mid-Continent refiners may change their ways next week.** At least, that's the hope of midland marketers with more gasoline and less price than they want.

**The half-a-cent inducement is last week's 0.5¢-a-gal. hike in distillate fuel oil prices in the Mid-Continent.** The price boost, plus the inducement offered by the expiration Sunday of summer-fill contracts, could provide the incentive for Mid-Continent refiners to taper off their gasoline yields and turn out more distillate.

**If the price hike doesn't swing Mid-Continent refiners to lower gasoline yields, it may be a rough winter in the midlands.** Gasoline stocks in the region are 8-million bbl. over last year. And distillate stocks are 7-million bbl. under last year. More distillate going to storage now, the marketers say, would prevent the danger of shortages with the first snow fall—a time when shortages are overcome by a hike in refinery runs, which means that more gasoline will be added to the already bulging stocks.

**Gasoline prices already are under pressure in the Midwest.** Chicago wholesale prices, now 0.5¢-a-gal. under last year, were threatening to break as Labor Day approached. Despite pleas to ward off discounts until after the last holiday of the summer, reports of prompt tank-car offers of 0.25¢ to 1¢ off are circulating in the Midwest. Numerous Oklahoma and Texas refiners are discounting for September takers at 11.25¢ a gal., or 0.75¢ off. River terminal operators in Chicago are making "openly secret" discount offers, not surprising since there's a lot more inventory in mid-Mississippi River terminals awaiting a market.

**For some marketers, the outlook is really glum:** The last half may turn out to be as profitless as the first half. Many had hoped the expected improvements in inventory levels would let them salvage a profit in the last six months.

### Do Customers Know F from P?

Great Lakes Pipe Line on Sept. 15 will only accept "F" grade of premium motor fuel at all 15 of its terminals. The material has a 99-octane research rating with an 89-octane minimum motor rating, compared with the 98 (research) rating of the "P" grade now handled. The big question: Can suppliers convince buyers that F is worth more than P, and raise the differential over housebrand to 3¢-a-gal. from 2.75¢? The answer may be "Yes" since some sellers claim they've been collecting the 3¢ differential since July 10 when eight of the terminals switched to F.

### New Terminal; New Fuel Deal

Announcement of a new supertanker terminal on the East Coast as an outlet for one of the largest fuel oil suppliers surprised few marketers. Such a deal had been expected, and more may come as major companies continue to shop for independent outlets for protection on imports (PW—Aug.22'58,p50). The first announced deal involves a yet unnamed major and Preferred Oil Co., and its affiliate, Burns Bros.

### Spot Rates Aid Distillate

Tanker owners are tongue-in-cheek about the rise in clean tanker rates (ATRS plus 5%) lasting for long. Meanwhile, higher spot rates give East Coast distillate prices their hardest base "since Suez."

# The Market Place AROUND THE WORLD

Prices compiled for PETROLEUM WEEK by Platt's OILGRAM Price Service and National Petroleum News, McGraw-Hill Publications

**All Prices as of August 25**

**Bold face type indicates changes from previous week**

## KEY PRICES—REFINED PRODUCTS

(¢ per gal. except dollars per bbl. where $ is shown)

### Western Hemisphere

**U.S. Gulf Coast, cargoes**
- Gasoline, 98 oct prem ..... 12.25-12.875
- Gasoline, 92 oct reg ..... 11-11.5
- Kerosine ..... 8.875-9.125
- Heating oil, No. 2 ..... 8.625-9
- Gas oil, 48-52 d.i. ..... 8.875-9.5
- Fuel oil, bunker "C" ..... $2.25-2.40

**Caribbean, cargoes**
- Avgas, Grade 100/130 ..... .16
- Gasoline, 93 oct research prem ..... 11.25
- Gasoline, 87 oct research reg ..... 10.375
- Gasoline, 79 oct research ..... 9.625
- Gasoline, 70-72 oct motor method ..... 9.5
- Kerosine ..... 9.125
- Heating oil, No. 2 ..... 8.625
- Gas oil, 48-52 d.i. ..... 8.875
- Fuel oil, bunker "C" ..... $2.25

**New York Harbor, barges**
- Kerosine ..... 9.95-10.2
- Heating oil, No. 2 ..... 9.45-9.7
- Fuel oil, No. 6 ..... $2.57-2.65

**Okla-Group 3, northern shpt, bulk**
- Gasoline, 89 oct reg ..... 12-12.75
- **Kerosine ..... 9.75-10.5†**
- **Heating oil, No. 2 ..... 9†**
- Fuel oil, No. 6 ..... $1.30-1.45

**Chicago, bulk**
- **Gasoline, 91 oct reg ..... 12.5↓**
- Heating oil, No. 2 ..... 9.5-11.35
- Fuel oil, No. 6 high sulfur ..... 6.65-6.75

**Los Angeles, rack**
- Gasoline, 88 oct reg ..... 13-13.6
- Diesel fuel, PS 200 ..... 10-11.25
- Light fuel, PS 300 ..... $3.05
- Heavy fuel, PS 400 ..... $2.50-2.70

**Natural Gasoline, Grade 26-70**
- FOB Group 3 ..... 4.5
- FOB Breckenridge, Tex. ..... .4

**LP-Gas**
- Propane, Oklahoma (Group 3) ..... 5*

**Pennsylvania Lubes**
- Bright stock, 25 p.t. ..... .22
- 200 vis. neutral, 25 p.t. ..... .21

**Mid-Continent Lubes, Tulsa basis**
- Bright stock, solvent 95 v. i. ..... 23-24
- Neutral, solvent, 200-210 vis ..... 19.5-20.5

**Gulf Coast Lubes**
- Bright stock, solvent, 95 v. i. ..... .24
- Neutral, solvent, 200 vis ..... 20.5

**Effective Aug. 14.*

### Eastern Hemisphere

**Singapore (Pulau Bukom), cargoes**
- Avgas, grade 100/130 ..... 17.25
- Gasoline, 79 oct research ..... 10.375
- Kerosine ..... 10.375
- Gas oil, 48 d. i. minimum ..... 10.25

## KEY PRICES—CRUDE OIL

(2¢ differential per deg. of grav. applies except as noted)

### Western Hemisphere

**United States (at the well)**
- Mid-Continent, 36.0-36.9 ..... 2.83-3.07
- North Dakota, 36.0-36.9 ..... 3.07
- Texas:
  - Gulf Coast, low cold test, 26.0-26.9 ..... 3.50
  - Gulf Coast, Upper & Lower, 26.0-26.9 ..... 2.92-3.22
  - West Texas, sweet, 36.0-36.9 ..... 3.00-3.07
  - West Texas, N. M., inter., 36.0-36.9 ..... 3.00
  - West Texas, N. M., sour, 32.0-32.9 ..... 2.86
  - East Texas, flat ..... 3.25
  - Mirando, 28.0-28.9 ..... 3.31
- Illinois Basin, flat ..... 3.00
- Pennsylvania Grade, Bradford dist., flat ..... 3.90
- California, Signal Hill, 21.0-21.9 ..... 2.63-2.73†
- North Louisiana-Arkansas, 36.0-36.9 ..... 2.82-3.02
- Wyoming, sweet, 36.0-36.9 ..... 2.90-3.00
- Wyoming, sour, 32.0-32.9 ..... 2.71

**Canada (flat prices, at the well)**
- Acheson-Stony Plain (Alta.) ..... 2.61
- Leduc-Woodbend (Alta.) ..... 2.67
- Redwater (Alta.) ..... 2.56
- Daly (Man.) ..... 2.39
- Smiley (Sask.) ..... 2.33

**Venezuela (Cargoes, FOB lifting port designated)**
- Cumarebo, 48.0-48.9, Tucupido ..... 3.75
- San Joaquin, 41.0-41.9, Puerto la Cruz ..... 3.34
- Oficina, 35.0-35.9, Puerto la Cruz ..... 3.05
- Tia Juana, Medium, 26.0-26.9, Amuay ..... 2.55
- Bachaquero, flat, Las Piedras ..... 2.03-2.08
- Tarra, 38.0-38.9, San Lorenzo ..... 3.08
- Lagunillas Heavy, flat, Cardon ..... 2.25

*†Differential per deg. of grav. varies.*

### Eastern Hemisphere

**Middle East, Persian Gulf (Cargoes, FOB lifting port)**
- Arabia, 34.0-34.9, Ras Tanura ..... 2.08
- Safaniya, 27.0-27.9, Ras Tanura ..... 1.79
- Iran, 34.0-34.9, Bandar Mashur ..... 2.04
- Iran, 34.0-34.9, Abadan ..... 1.99
- Iraq, 35.0-35.9, Fao ..... 1.98
- Kuwait, 31.0-31.9, Mina-al-Ahmadi ..... 1.85
- Qatar, 41.0-41.9, Umm Said ..... 2.23
- Neutral Zone, Burghan, 23.5-24.4, Mina Saud ..... 1.61
- N. Zone, Eocene-Ratawi, 20.5-21.4, Mina Saud ..... 1.43

**Middle East, Eastern Mediterranean**
- Arabian, 36.0-36.9, Sidon ..... 2.49
- Iraqi, 36.0-36.9, Tripoli, Banias ..... 2.49

**Far East, Cargoes, FOB Lutong, Sarawak**
- Seria Light, 37-38 ..... 2.75

## KEY TANKER RATES

(Last pair, per long ton, single voyage)

U.S. Gulf-New York, clean ..... (USMC —5%) $2.71
U.S. Gulf-New York, dirty ..... (USMC —10%) $2.56
**NWI-USNH, dirty ..... (USMC —50%) $1.48↓**
NWI-UK/Cont., dirty ..... (Scale —57½%) 13/10
Persian Gulf-UK/Cont., dirty ..... (Scale —35%) 36/1*
Persian Gulf-USNH, dirty ..... (USMC 60%) $5.08

**Sterling.*

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Atlanta 3 — Douglas C. Billian
1301 Rhodes-Haverty Bldg.
Jackson 3-6951

Boston 6 — Donald R. Thompson
350 Park Square Bldg.
Hubbard 2-7160

Chicago 11 — Edward A. Callahan Jr.
520 North Michigan Avenue
Mohawk 4-5800

Cleveland 15 — J. E. MacArthur
1164 Illuminating Bldg.
55 Public Square
Superior 1-7000

Denver 2 — J. W. Patten
Mile High Center, 1740 Broadway
Alpine 5-2981

Houston 25 — D. O. Hanson
724 Prudential Bldg.
Jackson 6-1281

Los Angeles 17 — Peter S. Carberry
1125 W. Sixth St.
Huntley 2-5450

New York 36 — Donald R. Thompson
500 Fifth Ave.
Oxford 5-5959

Philadelphia 3 — W. A. Potter
6 Penn Center Plaza
Rittenhouse 6-0670

San Francisco 4 — William C. Woolston
68 Post Street
Douglas 2-4600

Tulsa 3 — J. A. Hartley
909 Enterprise Bldg.
522 South Boston
Gibson 7-5594

England, London E. C. 4 — E. E. Schirmer
McGraw-Hill Co., Ltd.
95 Farrington St.


# DEPT/Personals

**RUSSELL D. RICHARDSON** has been named vice-president, finance, of Tidewater Oil Co. He will retain his responsibilities as treasurer and controller. Richardson began with the company in 1921 as an accounting clerk. In 1954 he was elected controller of the company, and assumed the additional post of treasurer in 1957.

A. E. Stebbings

R. D. Richardson

**ALBION E. STEBBINGS** is a new director and general manager of the sales department of Signal Oil & Gas Co., Los Angeles. He retains his position as secretary of Signal, and will assist **O. W. March,** vice-president and director, who will continue as head of the company's marketing operations. Stebbings joined the company as an attorney in 1944, and has worked closely with its sales department during the past several years.

**W. DOYLE MILLER** has been elected a director of Seminole Oil & Gas Corp., Dallas. Miller is an independent petroleum and management consultant in Dallas and Wichita, Kan. and president of Miller Petroleum Co.

**H. E. ZOLLER,** Jet Drilling Co., Wichita, was elected chairman of the executive committee of the newly formed Kansas Petroleum Industries Committee, a consolidation of the state's Oil Information and Petroleum Industries Committees. **C. E. Muellerleile,** division marketing manager of Cities Service Oil Co., Wichita, and **J. D. Phillips,** divison marketing manager of Phillips Petroleum Co., Wichita, were named vice-chairmen.

**J. EDWARD GREEN** will become regional geologist for the southern region of Oklahoma for Sun Oil Co.'s Mid-Continent division, effective Sept. 1, in Tulsa. Green joined Sun in 1948 and was promoted to district geologist at Ardmore, Okla., in 1954. He will be succeeded by **Richard L. Rison.**

**D. B. GILMORE,** formerly petroleum consultant and geologist at Cushing, Okla., has been elected vice-president and a director of Great Plains Petroleum Corp. He will supervise Great Plains' development and production activities from offices in Cushing.

**PHILIP OXLEY** has been appointed district exploration manager at Lafayette, La., in Tennessee Gas Transmission Co.'s oil and gas exploration department. **John T. Velkas** succeeds Oxley as district geologist in New Orleans. Velkas was formerly senior geologist at Lafayette. **Eugene E. McElvaney, Jr.,** formerly district landman in New Orleans has been promoted to district exploration manager there.

**G. T. PEARSON** is chairman of the American Petroleum Institute's Texas public relations program, which will be called the Oil Information Committee of Texas after Sept. 1. Pearson, regional manager of Continental Oil Co., in Fort Worth, has been chairman of the Texas Oil Information Committee, formerly API's public relations organization in Texas. Dallas will continue to be staff headquarters for the new group.

**JOHN H. MOYLE** will take over as district marketing manager Sept. 1 for Carter Oil Co., at Eugene, Ore. He succeeds **John J. Hinch,** who is being transferred to Portland, Ore. Moyle joined the company in 1950. His present job is real estate representative for Carter, at Portland.

**LEE A. CHRISTIANSEN** was appointed general manager of the traffic department for Sun Oil Co., in Philadelphia. Christiansen, assistant manager of that department since 1952, replaces **Thomas G. Rabbitt,** who will be on special assignment for Sun. **Richard H. Sterling** has become manager of retail sales for Sun's Middle Atlantic sales region, with headquarters in Philadelphia. **E. Gates Sturgis** replaces Sterling as manager of the Dayton (Ohio) sales district. He has been on special assignment at the Middle Atlantic sales region.

L. A. Christiansen

C. A. Day

**C. A. DAY** is manager of a newly organized department to direct current and future petrochemical activities for Richfield Oil Corp., Los Angeles. Organization of the new department is effective Sept. 1. Day's former post of research and development manager at the company's Anaheim (Calif.) research center is filled by his former assistant, **L. M. Richards. C. D. Thurmond,** who has been in charge of market research at the center, also will move to the new department

**CHARLES A. PFAHLER** is manager of the new corporate accounting department of Sun Oil Co., in Philadelphia. He was formerly manager of the accounts payable and budget department, which was combined with the bookkeeping department to

form the new section. **Wilbur D. Dowden** has been placed on special assignment in the production accounting department. In his new position, Dowden will coordinate the gas accounting work load to comply with the Federal Power Commission regulation of the production and sale of natural gas. He remains in Dallas, where he has been supervisor of the southwest production division gas accounting section. **David B. Crow,** office manager of Sun's Latin America division at Maracaibo, Venezuela, since 1956, moves to Dallas to replace Dowden.

**LLOYD J. BECKMAN** will become secretary and a director of Cities Service Oil Co. (Del.) on Sept. 1. He succeeds **F. B. Plank,** who retires at the end of this month. Beckman joined Cities Service in 1929 as assistant chief clerk of the Oklahoma marketing division. He has been assistant secretary of the company since 1953.

**KENNETH R. JOYNT** will become superintendent of Magnolia Petroleum Co.'s Gulf Coast producing division, effective Sept. 1. He is moving up from assistant superintendent to replace **J. B. Goodrich,** who is retiring. Joynt started with Magnolia in 1946 as a petroleum engineer in West Texas. **John S. Russell** will move to Houston from Oklahoma City to fill the job vacated by Joynt.

**HAROLD T. CRUIKSHANK** will become manager of Esso Standard Oil Co.'s reseller sales division, effective Sept. 1. He replaces **Gordon D. Donald,** who is retiring. Cruikshank has been serving as manager of Esso's service station development. This post will be filled by **D. F. Dickey,** who is currently with the Carolinas sales division.

**JOHN C. BUMGARNER,** controller, Sunray Mid-Continent Oil Co., Tulsa, has been elected president of the Oklahoma Control of the Controllers Institute of America. New presidents of other local controls include: **Duren W. Holder,** treasurer of British-American Oil Producing Co., Dallas Control; **J. A. Ross,** vice-president and treasurer of Shell Oil Co. of Canada, Ltd., Toronto Control; and **Edward G. Sommer,** assistant treasurer of Standard Oil Co. (Ken.), Louisville Control.

**J. F. JACK BARTH** became supervisor of Service Pipe Line Co.'s authorization department on Aug. 1, in Tulsa. He has been assistant supervisor since 1955.

J. F. Barth

Dr. D. E. Holcomb

**DR. DYSART E. HOLCOMB** has resigned as president of Texas Western College, El Paso, Tex., to accept a position as director of research and development for El Paso Natural Gas Co. He has been Texas Western's president since 1955. Holcomb will occupy offices in the company's new research laboratory building, recently built adjacent to the college.

**R. D. HUFFMAN** will be in charge of purchasing and stores activities of Shell Development Co.'s exploration and production research division, in Houston, effective Sept. 1. He will come to Houston from California, where he was assistant manager of the company's purchasing and stores department. Huffman will be replaced by **R. J. Holzinger,** purchasing and stores representative for Shell Pipe Line Corp. in Midland, Tex.

**WILSON K. MINOR,** comptroller, Standard Oil Co. of California, and **A. O. SAVAGE,** comptroller, Standard Oil Co. (N. J.), are new trustees of Controllership Foundation, Inc., research arm of the Controllers Institute of America. Their appointment becomes effective Sept. 1. Minor is a past director and regional vice-president of the institute, and Savage is a member of the institute's National Committee on Education.

R. W. Mountrey

E. L. Stewart

J. Andreae

**JOSEPH ANDREAE, ROBERT W. MOUNTREY,** and **EDWIN L. STEWART** have been chosen to fill executive positions in Esso Tankers, Inc., the recently established marine affiliate of Standard Oil Co. (N. J.). Andreae and Mountrey are vice-presidents; Stewart is special assistant to the president. The new company began operations Aug. 18.


# CLASSIFIED

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**Petroleum Salesman—Small and rapidly** expanding eastern seaboard oil company needs energetic retail and distributor oil salesmen. Gasoline and motor oil experience necessary. Salary commensurate with experience. Send two background resumes. All information confidential. P-8474, Petroleum Week.

**SPECIAL SERVICE**

**Alaska: Gubik-Kandik-Kuskokwim-Kateel** and Copper River areas. Status reports, leasing maps, filing assistance. Write, wire or call Claudia Fricks, P. O. Box 1222, Fairbanks, Alaska. Phone 3436.

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**For drilling deals in Texas, contact Ogden** Oil Company, P. O. Box 464, Ph. EL 23353, Taylor, Texas.

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**PETROLEUM WEEK**

# Oil Should Speak for Depletion

THE INDUSTRY WON ANOTHER SKIRMISH on percentage depletion in the Senate this month. It was an unusual victory, since the fight was over before the industry knew the attack was underway.

But even so, 31 senators voted to reduce the percentage depletion permitted oil and gas producers. Some producers view the size of the vote with alarm. They argue that the last time—1951—the full Senate voted to cut the 27.5% depletion provision, only nine affirmative votes were cast.

THE BATTLE WILL BE FOUGHT AGAIN. Percentage depletion's foes already are saying, "just wait 'til next year." Many observers believe that had hearings been held by the Senate, there would not have been 31 votes for cutting percentage depletion.

The industry has an education job to do, though. The benefits of an adequate supply of oil and gas at reasonable prices should be told to all consumers. Particularly, the industry should be able to present a strong case for retention of the necessary depletion provision to the public in the 30 states that produce oil and gas.

The job is not only one for the "industry," but it is one for every employee in the industry.

# Demand for 'Quotas' Still Grows

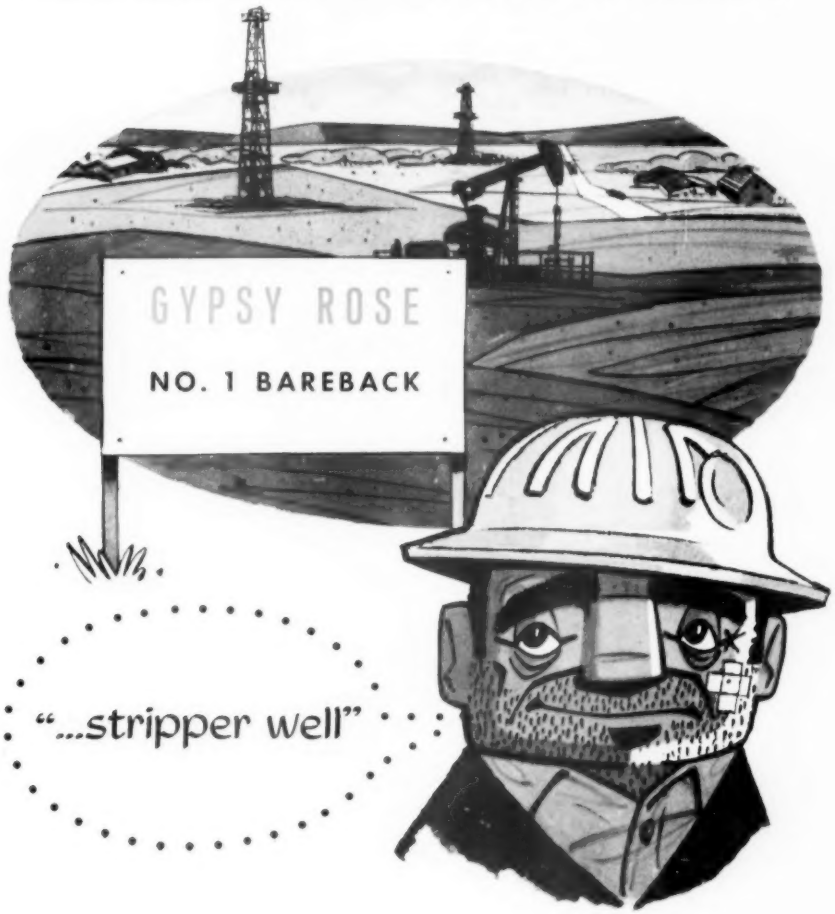
THE BATTLE WILL BE FOUGHT AGAIN. Percentage depletion's foes come as no surprise. At last count there were 85 on file requesting quota assignments totaling more than 750,000 b/d of crude. Only a few of the applications are from present importers.

Such a large number of applications points up the shortcomings of the present voluntary control plan rather vividly. Almost anyone in the industry can cite a "need" for a quota.

It is obvious that 750,000 b/d can't be added to the present 935,000 b/d now permitted nationwide under the plan. And to grant even a fraction of the numerous requests will mean most likely that present importers will be trimmed again. And for each newcomer that receives a quota, there will be several new applications filed from would-be-importers.

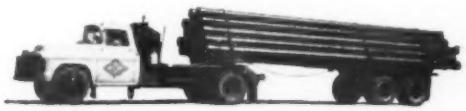
PETROLEUM WEEK has frequently called attention to such inherent weaknesses in the present voluntary plan, and we believe the time for a complete review of the method of voluntary allocation is long overdue. There is an urgent need for a voluntary program, gearing quotas to a realistic basis to cover all imported petroleum raw materials. And, too, inequities should be corrected.

*Congrats and $25 to R. W. WARING, 511 Oil & Gas Bldg., Oklahoma City.*




Oil and gas . . so vital to the world's economy . . is destined for an upturn in demand in coming months, according to the nation's leading oil men.

Lone Star, aware of its obligation as the oil country's steel mill . . has completed its new stretch-reducing mill for making API tubing and casing. Another step in our program to serve Joe Roughneck on the double. For API quality casing, tubing and line pipe . . Joe can depend on Lone Star.



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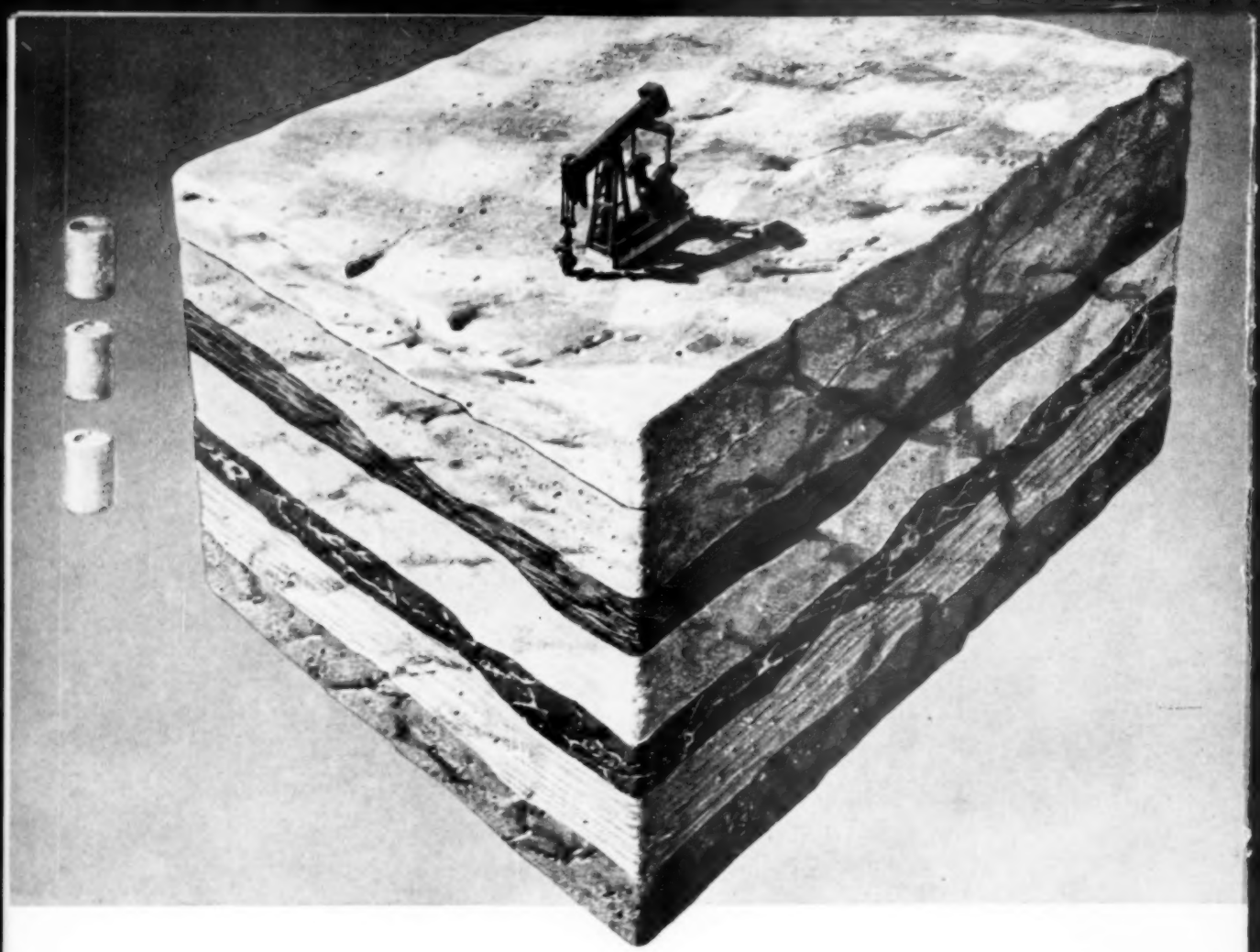

# Could this be your marginal well?

If you're operating a marginal well, this illustration could be a portrait of that well. Close examination of your well logs may reveal additional zones of potential productivity and a chance for increased production—with the *right* acidizing or fracturing treatment.

Here, for example, are three adjacent oil-saturated intervals within a single section. They have dissimilar porosities, permeabilities, and acid solubilities. Production from any *one* interval would not pay out; from *two* would be marginal, but from *all three* would make a good commercial well.

The problem is to devise a treatment, economically feasible, that would stimulate all three intervals to maximum production. It's not an easy task, but Dowell engineers are doing it every day.

Dowell is the only service company with twenty-six years experience in oil well stimulation work. And Dowell has the wide assortment of chemicals, additives, and temporary plugging agents required to tailor treatments for practically any formation.

Have any marginal production? Let your Dowell engineer help you check your well records for additional production possibilities. This is a good time to take another look at your stripper wells. Dowell, Tulsa, Oklahoma.

*Services for the oil industry*

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